Ignatian Scholarship Day

Compilation of Accepted & Endorsed Student Projects

Friday, April 15, 2016
9am to 5pm
Science Hall & Christ the King Chapel
Ignatian Scholarship Day 2016 – Accepted & Endorsed Projects

**Student:** Adaka, Adanna  
**Co Authors:**  
**Faculty Staff Mentors:** Reed, Philip  
**Presentation Type:** Oral/Digital  
**Time:** 10:30-10:50am  
**Location:** SH 1017

**Surrogacy: The "Issue" at Hand**

In her article, "On 'Surrogacy'", Barbara Katz Rothman opposes the practice of surrogacy based on a number of reasons. In my paper, I argue against Rothman’s reasons and defend the permissibility of surrogacy. I contend that surrogacy as a procreative technology is not the same as exchanging a baby for money, that it is possible for someone other than the gestational mother to make a valuable connection to the developing baby, and that the autonomy of the surrogate is retained.

**Student:** Anticoli, Kaitlyn  
Ayala, Casey  
Barbero, Sara  
Book, Alexis  
Brady, Patrick  
Bruno, Maria  
Capita, Helen  
Drozdowski, Nicholas  
Galvan Rodriguez, Katherine  
Gates, CJ  
Gleason, Anna  
Greenan, Natasha  
Schutte, Caroline  
Serio, Heather  
Sodaro, Maria  
Sparks, Emily  
Spears, Taylor  
Tran, Kim Ngan  
Trippe, Gina  
**Co Authors:**  
**Faculty Staff Mentors:** Wolf, Tom  
**Presentation Type:** 2 or 3 Dimensional Art  
**Time:** All Day  
**Location:** Alumni Gallery

**FAS 142 - Travel Photography: The Culture of Campania as a Model for Whole Mind and Body Living**

One need only to browse through aisles in any high-end supermarket to understand the dynamics of the way in which Americans eat and treat food has dramatically shifted. There is a growing momentum toward food that is produced locally and in a manner that is consistent with an overall focus on the health and well-being of the individual. Organic, once an exotic product label, has become commonplace. Yet, in the South of Italy, locals have been following the “back to nature” lifestyle completely unaware of the fact that in the West it has become a trend. The economy of Southern Italy is based on agriculture, allowed for by the ideal Mediterranean climate, proximity to the sea, fertile soil enriched by volcanic sediment, plentiful rainfall during half of the year, abundant spring waters, enabling lush vegetation to be present year round, and for four distinct crop seasons. This makes the region Campania ideal for sustainable systems of growing food, collecting food or foraging, and
transforming organic waste to nourish the earth instead of harming it, allowing for a quality of life that is timeless, wholesome, and mindful. During a ten day trip students in the FAS 141 Travel Photography class we will document this culture through photography and meet the people who embody these old traditions: farmers, foragers, fisherman, winemakers, craftsmen, cheese makers, cooks, beekeepers, musicians and artists. In doing so they also will be challenged to deepen their awareness of the diversity of life in the world that surrounds them and by extension grow in self-understanding in order to develop more fully as a whole person as expressed in the in the Jesuit philosophy of education.

Student: Arenos, Jason  
Co Authors:  
Faculty Staff Mentors: Fajardo-Heyward, Paola  
Presentation Type: Oral/Digital  
Time: 4:30-4:50pm  
Location: SH 036

**Facilitating International Cooperation and Understanding of Genetically Modified Organisms (GMOs)**

In the past few decades genetically modified organisms have caused controversy within issues of international regulations and public perceptions. Many initiatives have been developed to regulate GMO's, such as the Biodiversity Cartagena Protocol on Biosafety, and SPS agreement within the WTO. Since not every country has signed these protocols, more conflict has arisen between nations. Despite many of these conflicts being recognized and settled within the World Trade Organizations, the conflicts still continue. The main discrepancy between GMO international trade is the application of the "precautionary principle" by the EU and the "substantial equivalence" by the USA. Other conflicts arise between NGOs such as the World Health Organization and Greenpeace. This paper will give recommendations as to how the international community can better foster cooperation in regards to GMO trade as well as decrease fear and uncertainty among the public at large.

Student: Baird, Courtney  
Co Authors: Ramsay, Alexandra, Surratt, Cameron  
Faculty Staff Mentors: Hoffman, Christy  
Presentation Type: Poster  
Time: 1:00-2:00pm  
Location: Science Hall Commons

**Where'd you go? I miss you so: An analysis of dog behaviors upon reunion with owners.**

Reunion behavior is suggested to be the most applicable indicator of attachment level between dog and owner, with evidence indicating that dogs appear to miss their owners during separation. In this study, we observed and recorded 39 dog-owner pairs upon reunion at dog daycare. Additionally, each owner completed three questionnaires: one about owner's personality, one about the dog's behavioral tendencies, and one about the owner's perception of the dog-owner relationship. We investigated the extent to which the personality of dog and owner overlap, and how personality and perceived level of attachment influence the behaviors observed upon reunion. Results are pending.
**Ignatian Scholarship Day 2016 – Accepted & Endorsed Projects**

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<th>Student:</th>
<th>Ball, Ellen</th>
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<tr>
<td>Co Authors:</td>
<td>Schmidt, Laura; Rybczynski, Carrie</td>
<td>Location: Science Hall Commons</td>
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<td>Faculty Staff Mentors:</td>
<td>Angelini, Eileen</td>
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**"The Women of New France"**

*During my time participating in the Canisius Earning Excellence Program as a research assistant to Dr. Eileen M. Angelini, I was able to explore multiple aspects of Francophone countries, peoples, and cultures. In this specific research project, I focused on the women of New France. This refers to the French colonies in North America, from about 1534 until 1763. Women, both of French and Native American descent, played an integral role in the establishment and development of the colonies. Through the use of historical texts, such as The Jesuit Relations written by Jesuit missions in New France, we can understand the challenges that these women faced.*

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**The Infinitely Successful Bernoulli Brothers**

*Throughout the history of Mathematics there have been prolific mathematicians that have helped shape our understanding of the subject at hand. While some have had more of an influence than others, one such mathematician that has stood out from many is Gottfried Leibniz. It can be said that Leibniz was the mentor to one of the most famous families of mathematicians, the Bernoulli’s. The range of mathematical discoveries by Leibniz and the Bernoulli brothers are far from elementary and have had an effect in field such as Statistics, Differential Equations, and of course, Calculus, more specifically the Calculus of Variations.*

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<th>Bamrick, Jordan</th>
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<td>Co Authors:</td>
<td>Reitsma, Richard; Margulis, Susan</td>
<td>Location: SH 1004</td>
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<td>Faculty Staff Mentors:</td>
<td>Reitsma, Richard; Margulis, Susan</td>
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<td>Presentation Type:</td>
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**A Tale of Two Zoos: A Sociocultural Analysis**

*I have spent time as an intern at both the Pittsburgh Zoo & PPG Aquarium and Zoo Wuppertal in Wuppertal, Germany. Based on my experiences, I have formed an analysis of the social and cultural function of these zoos. Both institutions have long and detailed histories since their openings at the end of the 19th century. Surprisingly, these institutions have a similar history, but in some respects are quite different. I will also discuss the ethical policies that both zoos follow. I will also include my personal thoughts and evaluations, and what I have observed in the workplace and from watching visitors at both zoos.*
Genetic and Environmental Effects on Size-Fecundity Relationships in Aedes albopictus.
This experiment investigates variations in size-fecundity relationships in Aedes albopictus, the Asian tiger mosquito. Aedes albopictus is an important vector of several viruses including dengue, chikungunya, and the emergent zika virus. Size-fecundity relationships are often used in models to estimate population growth, a parameter important for predicting rates of disease transmission. We wish to determine if there is variation in this size-fecundity constant, and what factors may cause this variation. We are running a laboratory study to test the hypothesis and there are genetic and environmental factors that may shift the size-fecundity relationship in Aedes albopictus. This study is important as it can provide more accurate estimates, for more accurate predictions of the population growth of different populations of mosquitoes in different environments, which is important in determining transmission rates of diseases.

Impact of Didymosphenia geminata on Food Web Dynamics in Freshwater Streams
Didymosphenia geminata, a.k.a. Didymo, is an invasive freshwater diatom that produces a thick mat that covers the entire streams bed. We used fatty acid methyl ester signatures to investigate changes in resource use of invertebrates in tail water sections from three rivers in eastern Tennessee. We found consistent decreases in the ratio of omega-3:omega-6 fatty acids in common invertebrates, suggesting a shift in diet away from algal resources. We also found reductions in fatty acids biomarkers associated with diatoms, similarly suggesting reduced reliance on biofilms. Our results indicate that didymo mats alter basal resource use and that invertebrates are not heavily relying on didymo as a food source.

Spare the Sterol, Spoil the Fly: Analysis of D. melanogaster Survival On Different Dietary Sterols
Cholesterol serves as the primary base for the molting hormone ecdysone, which is required for larval pupation. It is widely accepted that D. melanogaster is not able to metabolically synthesize cholesterol and must receive cholesterol from its diet. Testing of this hypothesis is possible through the use of a synthetic diet, where the impact of the type and concentration of dietary sterols (e.g. cholesterol, ergosterol, & sitosterol) can be determined. Survival for a single generation has been demonstrated in recent work and is evidence that D. melanogaster is capable of either 1) converting other sterols into cholesterol, or 2) lipid sparing, where plasma membrane cholesterol may be switched out for similar
sterols. Multi-generational experiments are necessary to provide evidence for either hypothesis. Here we present preliminary evidence from an ongoing multi-generational experiment, using synthetic diet that supports the lipid sparing hypothesis, rather than sterol conversion.

**Student:** Benz, Theodore  
**Co Authors:**  
**Faculty Staff Mentors:** O'Neil, James  
**Presentation Type:** 2 or 3 Dimensional Art  
**Time:** 11:00am-12:00pm  
**Location:** Science Hall Atrium

**Coffee Cup**  
I plan to build an art exhibit: a large sculpture of a coffee cup made out of coffee cups collected from the Canisius campus. It will be formed like paper mache and then colored and detailed with paint.

I want it to serve both a social and environmental function as it will be a reminder of how much waste these coffee cups create (the total number of cups used for the sculpture will be only a portion of those thrown out at Canisius which in turn will be a tiny portion of those thrown out around the world), and it will directly make an impact by reducing the number of cups that are thrown out.

I plan to work on this during the day for the next month, mostly indoors, but outside as well if the weather permits.

**Student:** Bofinger, Robert  
**Co Authors:**  
**Faculty Staff Mentors:** Meyer, R Mark  
**Presentation Type:** Poster  
**Time:** 9:00-10:00am  
**Location:** Science Hall Commons

**PyPyGuimaker: A GUI Maker for Python in Python**  
PyPyGuimaker is a tool that allows programmers to visually design a graphical user interface, known as a GUI, and export the GUI to python code. Programming even a simple GUI can quickly become a complicated task. By allowing users to work on a digital canvas to design a GUI the process is simpler and faster than the traditional method of producing the GUI code by hand. PyPyGuimaker is to be used in intro computer science classes taught in python. The fact that PyPyGuimaker is written in python and also generates code in python allows for users of the tool to look at and understand the source code of tool.

**Student:** Bonzele, Tatiana  
**Co Authors:**  
**Faculty Staff Mentors:** Fisher, Jane  
**Presentation Type:** Poster  
**Time:** 3:00-4:00pm  
**Location:** Science Hall Commons

**Senegalese Soldiers during WWI**  
Senegal was one of the colonies of France during World War I. West African troops from France's colonies provided fierce and loyal troops to the French army in WWI. They took the title Senegalese in honor of the first back Tirailleur regiments formed in Senegal, soon earning a reputation for tenacity
and ferocity in combat and giving a very good account of themselves in dozens of actions.

The Senegalese Tirailleurs’ exploits during the First World War received mixed outcomes, however. Early in the war, the German army dismissed black African soldiers’ value on the battlefield and crafted propaganda that degraded them to savages.

The results of African involvement in World War I were not as everyone initially had imagined. Not only were very few soldiers granted French citizenship, but the godlike image of Europeans purveyed in the colonies was also shattered in the trenches. Many African soldiers felt themselves betrayed after the war when they were not accorded the same pensions as whites.

**Impact of Single-Parent Households**
The number of single-parent households in the United States has increased dramatically since the 1950's. This paper analyzes the impacts that single-parent households leave on children through the study of cognitive and social learning theory. Whether the child lives with their same-sex parent may impact the child in some important ways, including the child's perceptions of gender identity. Children who live with their same-sex parent have a better understanding of their gender roles whereas children who live with the parent of the opposite sex may have difficulty finding a role model to base their behavior. While there is limited research that shows whether divorce impacts a male more than a female, there are several factors that do alter the way that children adjust to divorce outside of their gender.

**Williams and Webber**
Andrew Lloyd Webber (1948-present) is a world-renowned composer and impresario of musical theater. He is best known for his extremely successful musicals The Phantom of the Opera, Joseph and the Amazing Technicolor Dreamcoat, Evita, and Cats. "Don't Cry for me Argentina" is one of his most popular hits from Evita, while "Unexpected Song" is from Song and Dance. "Pie Jesu" is a duet from his Requiem, which was dedicated to his father and won a Grammy in 1986.

Ralph Vaughan Williams (1872-1958) is considered to be one of the greatest English composers. His works include ballets, operas, choral works, and solo songs, all recognized for their power and expressiveness. "The Lark Ascending" and "Fantasia on a Theme by Thomas Tallis" are among his most famous pieces.
Physical Activity in and Body Mass Index in Children with Autism

This study was conducted to compare PA levels between children with autism spectrum disorder (ASD) and typically developing children (TD) and to determine whether a relationship exists between PA and body mass index (BMI) in children with and without ASD. 17 TD and 15 children with ASD (M=9.5; SD=1.8 yrs.) wore triaxial accelerometers to assess PA across 6 consecutive days except during sleep and water activities. Cut points were assessed for sedentary, light, moderate, and vigorous PA (Evenson, 2008). BMI was calculated by dividing the child’s weight in kilograms by their height in meters squared. Independent t-tests were used to examine group differences and Pearson’s correlations calculated to identify relationships between variables. There was a significant difference in BMI in TD children (p=.039). TD children also recorded a significantly greater average daily wear time than ASD children. There were no significant differences between TD and ASD participation across the cut points.

Nut Warz

Nut Warz, version 2, is a serious game for testicular cancer health awareness campaign. The presentation will focus on the concept, creative process and digital techniques used in design and development of the game. Building on the feedback of the first version of Nut Warz we went back to the drawing board to rethink and strengthen the message about prevention and detection of testicular cancer, redesign the characters, improve the controls and expand the game play to include two additional levels. The presentation will include playable first and second versions of Nut Warz. The research for design and development of the game was supported by CEEP.

What Makes Lyme Disease Tick? Impact of Mutations on Global Regulator BosR

Caused by the bacteria B. burgdorferi, Lyme disease is the fastest growing and most common tick-borne illness in the US. To survive the numerous environments it encounters during its life cycle, B. burgdorferi
has complex regulatory pathways to deal with the stress of changing temperatures, pH, oxidation environments, and blood compositions between hosts. The *Borrelia* oxidative stress regulator, BosR, is a regulatory transcription factor that is vital to the survival of *B. burgdorferi*, and functions to activate and repress nearly 80 genes, including genes for DNA protection from damage during starvation or oxidative stress and control over the expression of outer membrane proteins which are important for colonization in mammals. The goal of this project is to rigorously characterize the metal binding properties of BosR and determine the relationship between metal and DNA binding. This work determines the role of the amino acid in the position 39 of the protein in metal and DNA binding.

**Student:**
Calamunci, Nicole  
Francey, Jason  
Jackson, Victoria  
Perry, Kristen  
Snyder, Kyle  
Tomassini, Aaron  
Ullery, Matthew  
Van Dewater, Christina

**Time:** 2:00-2:50pm  
**Location:** SH 1013A

**CSPA Master's Thesis Presentations**
Eight members of the master’s Class of 2016 in College Student Personnel Administration will present summaries of their thesis research. Each presenter will summarize what they studied, the method they used, and what they learned from their study. Topics include student involvement, retention, gender identity development, religious diversity, and sexual decision-making.

**Student:**
Callen, Ashley

**Time:** 11:00am-12:00pm  
**Location:** Science Hall Commons

**Healthy Versus Unhealthy Breakfast Snacks on Mood**
The purpose of this study was to determine whether eating a healthy or an unhealthy breakfast snack affects mood. Twenty college students at Canisius College in a psychology class were sampled. Eight were given healthy breakfast snacks, a large apple, and twelve were given unhealthy breakfast snacks, three donut holes. A modified PANAS questionnaire was given shortly after eating which confirmed the hypothesis that a healthy breakfast snack would improve mood over an unhealthy breakfast snack. This may indicate the role of vitamins or natural versus processed sugars in mood. It is also possible that awareness of eating unhealthy food led to depressed mood.
Does Energetic Condition affect Flight Call Behavior in Warblers?
Migrating songbirds, such as warblers, use flight calls as a form of communication. Our research examines the use of flight calls in passerines during stopovers. Stopover sites provide warblers an opportunity to build fat stores needed for extended flight. Using data collected during spring and fall migration from 2010-2015, we examined the energetic condition (fat stores) of several species of warblers in conjunction with the frequency of vocalized responses. Calling responses were collected using a vocal recording collected in an electrically-shielded and acoustically-isolated recording chamber, while fat stores were visually evaluated using a standardized scale. We hypothesized that there are several factors that determine the likelihood of a response, including energetic condition. More specifically, we predicted that lean birds would be less likely to elicit a response. Research in this direction allows us to better understand songbird vocal behavior and migration.

Response to Judith Thomson’s “A Defense of Abortion”
In “A Defense of Abortion” Judith Thomson argues that the right to bodily integrity justifies a woman’s decision to abort an unwanted fetus even if one grants that the fetus has a right to life. I support her defense of abortion in extreme cases but disagree with some of her analysis. I argue that some abortions Thomson describes as merely indecent are in fact unjust and that the analogies she uses to make her case provide too wide a definition of a non-consensual pregnancy and fail to acknowledge the distinction between killing and letting die.

Hazards in Assessing Stream Health: Pollution vs. Biogeography
We conducted a survey of freshwater macroinvertebrates in streams of Erie and Cattaraugus counties, NY, to assess stream health in the region. We observed a distinct change in macroinvertebrate community composition in streams north of Onondaga escarpment relative to streams further south. The change in community composition corresponds with a decrease in diversity and loss of sensitive taxa, and also correlates with an increase in salt concentration. The data initially suggests that streams in the north are polluted. However, differences in geological history between the areas suggests that the community differences may instead represent differences in biogeography.
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My Body Is Not My Resume
Tattoos and Piercings have been part of humanity’s history for thousands of years; these permanent designs have been used as status symbols, religious beliefs, amulets, declarations of love, punishment and even therapeutic reasons. Today, body art has grown so much in popularity that the culture itself has gone from being described as an underground culture to being part of the mainstream one. However, despite of the continuously growing acceptance among society, both tattoos and piercings are still viewed as taboo by many, especially in the work place. Throughout my presentation I will defend this unique form of self-expression and why it should not determine whether a person is qualified for a job or not based on their body art. Tattoos and piercings become part of our identities, therefore people who express their identities through their ink or their jewelry should be protected just as much against discrimination in the workplace as people of different religions, race, & sexuality.

Buffalo Parks Conservancy Outreach
This project is aiming to raise awareness of the conditions of the Buffalo Olmsted Parks. We are attempting to create a connection between the park organization and the school, in order to establish an enduring collaboration, in which students can volunteer to help save the environment.

The Effects of Light and Height on the Feeding Preferences of Common Vampire Bats
The feeding preference of a captive colony of common vampire bats (Desmodus rotundus) was observed in order to draw comparisons to the feeding styles of wild vampire bats. Dishes were placed at three different height levels in darker or lighter portions of the exhibit. This created six possible choices for the bats (dark high, dark medium, dark low, light high, light medium, and light low). Data were collected for 40 minute periods multiple times a week for six weeks. At least one bat was observed feeding during 84% of observations. Although sample sizes were small, bats fed more frequently from the dark medium dish. The results suggest that bats prefer feeding in darker areas, and above ground level. These findings suggest that some elevation of food dishes may be helpful to captive vampire bats, as it more closely simulates natural feeding behavior. Similarly, darker areas are preferred suggesting that variation in lighting levels during the bats nocturnal period may be beneficial.
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Student: Christie, Molly
Co Authors: Marlinski, Courtney
Time: 9:00-10:00am
Location: Science Hall Commons
Faculty Staff Mentors: O'Brien, Jonathan
Presentation Type: Poster

DOC and CPOM Alter Invertebrate Community Composition and Food Web Dynamics in an Urban Stream

Last summer, we used rock baskets to examine the effects of differing organic matter sources on food web characteristics of an urban stream. Baskets were deployed in Ransom Creek and analyzed for changes for community and food web linkages. There was a strong enrichment effect due to our leaf treatment, resulting in increased densities of specific invertebrates. Our data suggests that leaf inputs from riparian zones boost densities of dominant taxa, but alternate resources such as DOC may have a more substantial impact in altering food web characteristics. To confirm this relationship was consistent in other local urban streams, we conducted a similar experiment, analyzing the food web structure of two other creeks in the winter season. We found our relationship was consistent with the food web structure we have previously proposed. Currently, we are processing samples to determine the top-down effects on urban streams.

Student: Cipresso, Kristen
Co Authors: 
Time: 3:00-4:00pm
Location: Science Hall Commons
Faculty Staff Mentors: Weston, Anthony
Presentation Type: Poster

Newton’s Binomial Theorem and Approximation of Pi

Prior to Newton’s binomial theorem, people used Pascal’s triangle to determine the coefficients. You had to compute each row of the triangle until you have the coefficients needed for the expression, which was a very tedious task. To shorten this process Newton created the binomial theorem to describe the algebraic expansion of powers of a binomial, \((a+b)^n\). Once Newton discovered this theorem he realized it could be used to estimate square roots and find the areas under certain curves. Through finding the area of a section of a semicircle he was able to correctly estimate pi to seven decimal places. This poster focuses on Newton’s binomial theorem, finding the area under certain curves and his estimation of pi. We will answer the questions how did Newton derive the binomial theorem, how is it applied to find the area under certain curves and how can these areas be used to estimate pi?

Student: Clemens, Casey
Co Authors: 
Time: 11:00am-12:00pm
Location: Science Hall Commons
Faculty Staff Mentors: Noonan, Michael
Presentation Type: Poster

Contingency Testing by Beluga Whales When Presented with a Reflective Mirror

This study examines the behavior of beluga whales when presented with a large reflective mirror. Twelve beluga whales housed at Marineland of Canada were video recorded when presented with the mirror, which was either exposed or covered. An analysis of the animals’ behavior was carried out on a second-by-second analysis using a beluga-based ethogram. The following behaviors were significantly
greater when the mirror was exposed to the whales: time spent near the mirror, time spent looking at the mirror, head movements performed in front of the mirror, and inferred contingency behaviors. These results suggest the possibility that beluga whales perform contingency-testing behaviors as a way of exploring the nature of the reflective image.

Cardano and the Cubic
The Italian mathematician Gerolamo Cardano discovered the solution to the General Cubic equation \( ax^3 + bx^2 + cx + d = 0 \). This breakthrough builds on the work of other Italian mathematicians. This poster will explore the narrative behind Cardano’s discovery and the nitty gritty math details of the breakthrough itself.

EDDIE, The Affective Autism Therapy Robot
EDDIE (Emotion, Demonstration, Decoding, Interpretation, and Encoding) is an interactive AI which will be deployed as an intervention system for children diagnosed with High-Functioning Autism Spectrum Disorders (HFASD). Facial tracking software interprets the subject’s response and will allow for immediate objective feedback. EDDIE fills a need in research and intervention for children with HFASD by providing a platform which can increase therapy frequency and enable more advanced therapy goals relative to current techniques.

Senior Thesis Presentation
My English Honors Thesis was a 20 page chapbook of eco-poetry, exploring the dynamics between humans and nature. I will be reading from this chapbook and explaining my creative process.
The Journey to Fair Trade Certification at Canisius College
Jesuit values encourage reflection and emphasize ideas of love in action. Generations of students have come through the doors of Canisius with different ideas of how to leave it better than when they started. Several students, through reflection and education, have seen love in action when we choose products that are made with standards of living, humanity, dignity, and justice in mind. Canisius College is very near to completing the process of becoming Fair Trade certified and this is a journey that Campus Ministry’s Justice Interns would like to share. In outlining the steps taken, and fleshing out what it means on a grand scale to be Fair Trade certified, we will be able to show how a community of students over a couple generations made Canisius a better place than when they started.

Catherine Maria Sedgwick’s “Vanishing Indian” in Hope Leslie
Throughout Hope Leslie, Catherine Maria Sedgwick addresses the conflict between the Native American and the White Man in early America. In 1827, when the novel was published, Native Americans were popularly viewed as having an innate relationship with nature and would gradually disappear into it. My presentation will discuss how despite Sedgwick’s progress towards subverting what twentieth-century critics call the "Vanishing Indian" stereotype throughout the first volume of her novel, Sedgwick fails to subvert the "Vanishing Indian" at the end of the novel by having Magawisca vanish off into the forest, becoming part of nature.

The Search for the Epic Mythic Hero in Modern Literature
In his epic journey, The Odyssey, the hero Odysseus was looked to as an example of this epic mythic hero. Many modern writers have tried to duplicate this hero in literature but have failed. These three works Homer’s The Odyssey, Ellison’s Invisible Man, and J.K. Rowling’s Harry Potter are all texts that trace the epic hero over time. Using these texts, scholarly sources, and through a PowerPoint presentation, I will break down my thesis paper to prove that not only does our society need and search for an epic hero, but without mythology it is not possible to have one.
Send the Pentecost! The Influence of Religion on James Baldwin’s Works

African American literature is undeniably impacted by and infused with black culture. James Baldwin, one of the few African American writers that produced literature during the modern Civil Rights Movement, wrote of the struggles of African Americans finding their identity and place in society at a time when being black was not accepted in America. Blacks, excluded from many aspects of American culture, including politics, economics, and education, found their identity in the church and through music, especially gospel, jazz, and blues. This presentation will highlight the Christian symbols and biblical overtones in Baldwin’s Blues for Mister Charlie and ”Sonny’s Blues” as evidence of the influence of religion on his writing. An analysis of Baldwin’s Pentecostal background reveals the connection between the church and music and their ability to give blacks an identity and a sense of self.

Exploratory Study of Texting throughout Young Adulthood

In less than 50 years since their debut, cell phones are now owned by about 92% of American adults (Pew Research Center 2016). Due to their mobility, access to the internet, and ability to allow for multitasking, cell phones have become a popular and pervasive technology in all contexts. Cell phones are most commonly used for text messaging, which has taken over as a worldwide phenomenon and a primary means of communication. The purpose of this study is to examine how text message frequency, message content, and motives differ by age. This exploratory study uses focus group methods to investigate young adults text messaging behavior and views. A total of three different focus groups will be held, varying in the age of participants. One group will be comprised of 18-20-year-olds, a second of 21-23-year-olds and a final of 24-30-year-olds. All the focus groups discussions will be transcribed, and themes in participants’ responses will be identified and analyzed.

Understanding Mate and Friend Selection

A small pilot study was conducted in order to determine which traits were used most frequently to describe the characteristics one looks for in a friend versus a romantic partner. We wanted to examine this relationship in more depth and further examine the differences that emerged between the traits male and female students valued. Studies show an overlap in the traits one desires in a friend and in a spouse. This study will focus on the relationship between friend and romantic partner desired traits. We will also explore self-traits and the traits that ones’ current or previous best friend and romantic partner
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possess. The ultimate goal of this study is to better understand mate and friend selection in an undergraduate college community. We hope to expand on the current research and contribute to the field of Social Psychology.

We are currently in the process of collecting data. In addition to the information above, the findings also will be presented at Ignation Scholarship Day.

Student: D’Aguiar, Gabriela
Co Authors: Bargnes, Vincent
Faculty Staff Mentors: Wright, Ann
Presentation Type: Poster
Time: 1:00-2:00pm
Location: Science Hall Commons

The Science Behind Science Education
Our research has involves raising the sense of inquiry in the context of science to young students. With supplies from the Canisius’ Mentor Learning Program Lab, we teach science by creating small activities that generate intriguing questions for students engaged in after school programs. We have created a curriculum primarily focused on anatomy and body systems and we create activities and lessons that we teach to 3rd and 4th graders. The method in which we teach is inquiry based. In other words, we teach by asking the students questions. At the beginning and end of each topic we give them a pre and post-test to track improvement and to see if inquiry based learning is an effective method to teach science. So far, it has proved to be very successful. The activities we make allow the students to be more engaged and they help students remember concepts easier than being taught strictly by lecturing.

Student: Davis, Chanel
Co Authors:
Faculty Staff Mentors: Russell, Joshua
Presentation Type: Poster
Time: 3:00-4:00pm
Location: Science Hall Commons

Children on the Hunt
Our project, Children on the Hunt, focuses on children’s experiences of hunting and fishing. We investigate the intergenerational transmission of hunting practices and knowledge; children’s emotional and moral reflections on killing animals; and the relationships between hunting and other environmental behaviors. As we are early on in the data collection process, I will present primarily on the qualitative methodology we use, known as phenomenology. By citing examples from our existing data, I will explain our multi-step process that includes conducting interviews, transcription, thematic analysis, bracketing, and coding. This rigorous methodology gives us deeper insights into each child’s unique lived experiences.
Women's Political Representation in the European Union

The European Union offers multi-leveled insight into women's involvement in global politics. The European Union's institutions try to create gender equality policy. However, there is an extreme under-representation of women in decision making positions. This has an effect upon all activities of the institutions. Within the twenty-eight member states national parliaments, there is an average of only 27% female ministers. This scarcity of female representation in politics contributes to the lack of implementation of gender equality policy. A rise of women in political decision making positions will further the progress toward true gender equality in the European Union. A truly gender equal society of the European Union will lead toward the expansion of global gender equality.

FAS 141 - Intro to Digital Photography Service Learning Projects.

The FAS 141 exhibit will highlight the transformational experiences that the students had at service-learning sites and with the people they encountered. The following students have performed service-learning through the Spring 2016 semester. Locations included:

- Buffalo Niagara Riverkeeper
- The Cornerstone Manor
- Vive la Casa
- Hillview Elementary School
- Yogis In-Service
- Precious Paws
- Iron Island Preservation Society
- St. Luke’s Mission of Mercy
The Mission of Western New York Sibshop

The Western New York Sibshop is a program that was developed to benefit children who have siblings with special needs. These children have challenges and responsibilities that can differ markedly from those children who do not have a sibling with a developmental or chronic physical disorder. The WNY Sibshop is designed to address some of these unique issues. This presentation will discuss our overall mission, success stories, and how this program came to Canisius College.

Assessment of the Effectiveness of Western New York Sibshop

The Western New York Sibshop is a program that has been held at Canisius for over a decade and has served many children who have siblings with special needs throughout those years. The present study examines the program's impact on the children who participate by assessing changes in their overall self-confidence, sense of well-being, and sibling relationships. Data collection is currently in progress. The presentation will discuss our assessment protocol for the study, as well as expected findings.

Four Love Songs

"From Rosy Bowers" by Henry Purcell is described by the poet as "a Mad Song: by a lady distracted with love." The varying degrees of madness she experiences include "sullenly mad, mirthfully mad (a swift movement), Melancholy madness, Fantastically mad, Stark mad."

The three pieces by Ernest Chausson explore different attitudes toward love. "Serenade" expresses youthful, dreamy love, while "Nocturne" questions whether or not love may last, and "La Chanson bien douce" comments on the fleeting nature of life and love.
Self-defining memories and physical health
Individual differences in narrative processing have incremental validity as cross-sectional indicators and longitudinal predictors of well-being above the effects of other individual and situational predictors of well-being (Adler, Lodi-Smith, Phillippe, & Houle, 2015). While trait aspects of personality and microlevel patterns in word use are consistently linked to physical health, research investigating how macrolevel individual differences in narrative processing relating to physical health has been somewhat lacking (but see Dunlop et al., 2013; Pals, 2006). The present research investigates the relationship between narrative processing and self-reported health in a sample of 58 healthy adults age 21 to 84 assessed twice over a three year period. Specifically, the current research suggests that individual differences in self-defining memories told at wave one predict wave one, wave two, and changes in role limitations above and beyond the effects of traits and health behaviors.

The Impact of Age on Differential Response Rates in Warblers
Warblers use flight calls in a variety of contexts as a form of auditory communication. Our research team is examining the use of these flight calls by migrating warblers in order to improve current understanding of communication between birds during times of migration. Using a sonogram recording collected in an electrically-shielded and acoustically-isolated recording chamber, we are able to determine if a bird gives a response when it hears a flight call. There may be several factors that determine whether or not a bird responds to a flight call, including the age and migration experience of the bird. I compare the response rates of naive (hatch year) birds who have never migrated before to the response rates of older (after hatch year) birds who have. While younger birds response more frequently overall, this trend is not seen in all species. Differences in response rate between age groups may suggest differential use of flight calls to communicate with others during migration.

De nombreuses formes de la Résistance française: The Many Forms of Resistance in France during WWII
My presentation for Ignatian Scholarship Day will be based on a presentation I did for FRC 453: War and Memory, a French major elective course taught by Dr. Angelini. I will discuss the forms of the Resistance movement in France during World War II, including those that are well-known, such as industrial sabotage of trains and factories and clandestine journals, and the lesser-known ones, such as organizations that helped those suffering in the French camps. I will also focus on the differences between violent forms of resistance and nonviolent ones within France during this time period. Finally I
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will speak to the differing levels of participation by the French within the Resistance. This presentation inspired me to continue studying the Resistance movement in France, particularly in regards to the different types of camps in France, and will be a central focus of my CEEP work should I be accepted next year into the program.

Student: Fiorella-Crandall, Mitchell
Co Authors: 
Faculty Staff Mentors: Sheets, H David
Presentation Type: Poster
Time: 1:00-2:00pm
Location: Science Hall Commons

Experimentally Steering Sound Waves Below One Quarter Wavelength Using Metamaterials
We constructed a metamaterial using an array Helmholtz resonators which was then used to change the direction of sound waves on a scale below one quarter of the wavelength, which is the diffraction limit for conventional manipulation of waves. Sound waves at 400Hz from an ordinary speaker were directed into a cartoid pattern using a metamaterial. Metamaterials allow for the steering of electromagnetic waves while below the diffraction limit thus allowing for a wide range of extremely high resolution devices. Metamaterials are man-made structures that exhibit unnatural behaviors, such as negative indices of refraction, left hand rule orientation of EM waves, and other phenomena mediated via evanescent waves. Experimentation with metamaterials has only begun within the last ten years and still offer a wide range of potential applications across many fields such as medicine, analytical chemistry, photonics, and military stealth technologies.

Student: Fitzgerald, Sabrina
Co Authors: Rutowski, James J. Steinbacher, Jeremy L.
Faculty Staff Mentors: Steinbacher, Jeremy
Presentation Type: Poster
Time: 3:00-4:00pm
Location: Science Hall Commons

Toward a 19F MRI Contrast Agent based on Mesoporous Silica Nanoparticles
Here, we present efforts to prepare multifunctional silica nanoparticles that incorporate fluorine atoms for detection by 19F MRI. We have synthesized a library of molecules that contain multiple chemically-equivalent fluorine atoms in the form of trifluoromethyl groups. Importantly, the molecules contain a variety of hydrophilic moieties to promote solvation of the fluorine atoms. Also, the fluorinated molecules contain electrophilic groups for facile conjugation to thiol-modified nanoparticles. We have subsequently immobilized these groups to the pores of mesoporous silica nanoparticles that were PEGylated on their exterior surfaces to promote biocompatibility and water-dispersibility. Lastly, we used 19F NMR spectroscopy to detect these immobilized fluorine atoms in aqueous systems, demonstrating proof-of-principle that 19F MRI could be used to detect and image these materials.
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**Student:** Foley, Daniel  
**Co Authors:**  
**Faculty Staff Mentors:** Oprisan, Adina  
**Presentation Type:** Poster  
**Time:** 11:00am-12:00pm  
**Location:** Science Hall Commons

**A Simple Introduction to Brownian Motion and Quantitative Finance**
*This poster will present some remarkable results related to Brownian Motion. This is a stochastic (“random”) process constructed asymptotically using a time and space scaling of the random walk. The proof is illustrated using R software. Moreover, the properties of Brownian Motion will be explored mathematically and visually by starting with the discrete time setting (Markov Chains) and further developing into a continuous time setting (Markov Process). Lastly, specific applications in Quantitative Finance for assessing asset prices and volatility will be presented.*

**Student:** Franz, Kendall  
**Co Authors:** Nolan, Elizabeth, Butler, Shannon, Bidwell, Sarah, Walsh, Megan, Rhode, Nikki  
**Faculty Staff Mentors:** Kim, Ji-Hee  
**Presentation Type:** Poster  
**Time:** 9:00-10:00am  
**Location:** Science Hall Commons

**Healthy Helpers: A Social Entrepreneurship Project for Increasing Awareness About Healthy Choices**
*The Healthy Helpers project works to increase awareness about healthy choices in the Buffalo community. Our group is targeting school-age children through education. By teaching students in a fun, interactive, and engaging manner, we hope to make an impact on their decisions regarding nutrition, exercise, and leading an overall healthy lifestyle.*

**Student:** Gibney, Brianna  
**Co Authors:**  
**Faculty Staff Mentors:** Fajardo-Heyward, Paola  
**Presentation Type:** Poster  
**Time:** 1:00-2:00pm  
**Location:** Science Hall Commons

**Universal Healthcare in Central America**
*Today the Costa Rican healthcare system ranks very high on an international level with health and life expectancy equal to that of more developed countries. In 2014, Costa Rica ranked 36 on the World Health Organization’s rankings of the world’s health systems, beating the United States, which stood at 37. While Costa Rica is a Central American country with a universal healthcare system that is thriving, its neighboring country, Nicaragua (ranked 71) is having trouble delivering quality healthcare through a similar system. In my research thesis, I use the comparative politics research method to investigate why the universal healthcare system in Costa Rica is far more successful than in Nicaragua.*
**Student:** Graham, Dominique
**Co Authors:**
**Faculty Staff Mentors:** Donnelly, James
**Presentation Type:** Poster

**The Comorbidity of ADHD & OCD in Adolescent Males**

The Comorbidity of Attention Deficit Hyperactivity Disorder and Obsessive Compulsive Disorder in Adolescent Males, Dominique Graham (2016).

This presentation will provide an overview of co-occurring Attention Deficit Hyperactivity Disorder (ADHD) and Obsessive Compulsive Disorder (OCD). Individually, ADHD and OCD significantly impact everyday living; but there has been a lack of research on comorbidity of both disorders. This review will include a profile of both disorders and research that has been conducted on comorbidity thus far. This will include etiology, diagnostic criteria, and prevalence in adolescent males. In addition, the consequences of pharmacological versus nonpharmacological treatments will be discussed including effects both treatments may have on the brain. A proposal for research will conclude the presentation.

**Student:** Grebenok, Alexis
**Co Authors:**
**Faculty Staff Mentors:** Grebenok, Robert
**Presentation Type:** Poster

**Phloem Steroids of C-8,7 Sterol Isomerase Knockdowns in Arabidopsis thaliana**

Insects lack the ability to synthesize sterols de novo, so they must acquire sterols from their diet to meet developmental needs. Not all consumed phytosterols are readily converted to useable forms and some modified sterol structures are deleterious when ingested above a certain level. In recent studies we have genetically knocked down the expression of the C-8,7 sterol isomerase in Arabidopsis thaliana and thus modified the chemical structure of the plant sterol by causing the retention of the C-8,9 double bond in the phytosterols. We previously reported that the phloem feeders, aphids and the diamondback moth, fed on these plants demonstrated reduced fecundity and altered longevity. We examined the contents of the phloem obtained from lines of transgenic plants, which contained steroid variations in comparison to wild type controls. The ability of altered steroids to support growth and development of herbivorous insects is discussed.

**Student:** Halfdanardottir, Margret
**Co Authors:** Lenczewski, Magdalena
**Faculty Staff Mentors:** Margulis, Susan
**Presentation Type:** Poster

**Now You See Me (Now You Don't)**

We conducted a visual barrier study at the Buffalo Zoo by covering one window at a time in the gorilla exhibit. We hypothesized that, if high crowds led to stress, then by covering a window we would decrease stress, and aggressive and stereotypic behaviors. Additionally we looked at the amount of time spent near a window that was or was not covered, to see overall space occupancy when windows were
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To provide biological validation, fecal corticosterone assays were performed for two animals, an adult male and a two-year-old female. Corticosterone levels tended to increase when the windows were uncovered during the holidays, which might be related to increased stress when crowd levels are high. Crowd level, however, was possibly a confounding variable during this 3 month study (Oct-Dec) since crowds were generally low most of the time, but we plan to repeat this study in the upcoming summer when crowds are consistently high.

**Student:** Hanmiah, Ashrita  
**Time:** 3:00-4:00pm  
**Location:** Science Hall Commons

**Faculty Staff Mentors:** Fisher, Johanna  
**Presentation Type:** Poster

Global Health Issues for Women in the French-Speaking World

This presentation explores women’s health issues in Francophone regions, such as the Democratic Republic of the Congo, Mali, Rwanda, and Haiti. Prevalent health issues include maternal health, sexual health, and the psychological well-being of women in face of violence, cultural barriers, stigmas, and economic difficulties. These challenges will be explored in a social, cultural, and political context and various solutions are addressed to secure women’s health and rights while upholding sustainability and progressive change.

**Student:** Harkins, Joshua  
**Time:** 1:00-2:00pm  
**Location:** Science Hall Commons

**Co Authors:** Tzetzo, Alyssa  
**Faculty Staff Mentors:** Grebenok, Robert  
**Presentation Type:** Poster

Modification of Tobacco’s Enzymatic Ability Through the Introduction of Select Sigma Ligands

Insects lack the ability to synthesize sterols de novo and therefore must acquire sterols from their diet to meet basic developmental needs. All herbivorous insects must convert dietary phytosterols found in plants into useable forms (chiefly cholesterol) to support their growth and development. In recent studies we have genetically knocked down the expression of the C-8,7 sterol isomerase in Arabidopsis thaliana causing the retention of the C-8,9 double bond in much of the accumulated phytosterol. These modified plants resist insect herbivory and decrease sucking insects fecundity. Previous work in our lab has demonstrated that various sigma ligands will biochemically inhibit the C-8,7 sterol isomerase. Tobacco was exposed to Verapamil and Haloperidol at varying concentrations, using clipping as well as surface application techniques to demonstrate the replication of the transgenic phenotype and to validate the genetic silencing of the enzyme.

**Student:** Hart, Arrianna  
**Time:** 10:00-10:20am  
**Location:** SH 035

**Co Authors:** Havis, Devonya  
**Faculty Staff Mentors:** Havis, Devonya  
**Presentation Type:** Oral/Digital

Black Aesthetics

My oral presentation will discuss the ways that black philosophers promote social justice. My focus will be what is distinctly black about Black Philosophy and the way such philosophy utilizes black aesthetics in struggles against injustice.
Determining the relationship between repetitive behaviors and physical activity in children with ASD

Repetitive and stereotyped movements (RSM) are highly prevalent in children with ASD. In addition, studies have found that students with ASD frequently cannot complete required activities during physical education class, which can lead to the child exhibiting a sedentary lifestyle. Of many co-occurring diagnoses, obesity is one of the most prevalent in children with ASD. In the current study, 17 TD and 15 children with ASD wore triaxial accelerometers to assess PA across 6 consecutive days and cut points were assessed for levels of PA. Each child's parents completed ratings on ASD symptom expression and the degree of RSM via the SRS-2 and the ABC. Independent t-tests and Pearson’s correlations were used to analyze the data. TD children recorded a significantly greater average daily wear time, but neither group reached minimal recommendations for PA. Correlations were found on the measured levels of stereotypy and restrictive and repetitive behaviors (RRB) and PA the children exhibited.

Individual Differences in Identity Predict Health in Adulthood

Research suggests that individual differences in identity content such as personality traits are important predictors of physical health (Bogg & Roberts, 2013), cognitive health (Wilson et al., 2007), and psychological health (Steele et al., 2008). Further, evidence suggests that meta-cognitive evaluations of identity clarity relate to psychological health (Bigler et al., 2001). However, little is known about if and how self-concept clarity relates to physical and cognitive health. Further, research connecting identity content and clarity to important health outcomes does not always control for demographic, lifestyle, or other individual difference variables such as self-esteem. Results of the current research suggest that in 283 healthy adults age 18 - 89, identity content and clarity incrementally predict an array of health outcomes even when controlling for demographic variables, lifestyle factors, and self-esteem with the effects varying by outcome.
The New Jim Crow
In the 1970s, the number of people imprisoned in the United States began to rise. According to the United States Department of Justice, by 2000, the US prison population was five times as high as it had been in the 1970s. By 2011, the number of people imprisoned stood at a record rate: about 1 in every 107 people of the adult population. The criminal justice system sets back gains in citizenship and socioeconomic positions that African Americans made during the Civil Rights Movement. An extraordinary percentage of black men in the United States are legally barred from voting the same way they have been in the past through slavery and the Jim Crow South. It is no longer socially acceptable to use race, explicitly, as a justification for discrimination, so we don’t. We use our criminal justice system to label people of color criminals and then engage in the same practices that we have in the past, continuing the legacy of slavery.

Clinical Depression and The Bell Jar: The Depression Continues
"But it's all in your mind.' This phrase is one of one hundred phrases listed on the PsychCentral webpage under the title, Worst Things to Say to Someone Whos Depressed. However, this phrase -or some variation- is precisely what people who are suffering from depression are frequently told."
However, in today's society, controversy circulated around the idea of mental illness -with a large faction of people believing there is "no such thing". Regardless, the in depth analysis of Sylvia Plath's novel "The Bell Jar" proves this idea incorrect. The analysis breaks down mental illness to a level that is comprehensible for most audiences as it proves the existence of clinical depression through Sylvia Plath's character, Esther Greenwood. Not only does this discussion provide limited means for disagreeing with the existence of mental illness but it also provides the platform to understand that these illnesses are incurable -rendering them even more difficult to understand.

Adulterated Juice: An Introduction to Analytical Chemistry Through Use of the Case Study Approach
As a part of the junior/senior level analytical instrumentation course at Canisius College, modern, real-life situations and Case Study experiments are included to increase student’s exposure to situations that may occur in their real and professional lives. This study utilizes HPLC to determine the concentrations of two compounds, naringin and neohesperidin, in solutions comprising different ratios of grapefruit to...
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orange juice. The Case Study centers on determining if an orange juice supplier has exceeded the legal limit for the addition of grapefruit juice to orange juice.

Student: Johnson, Stephen
Co Authors: 
Faculty Staff Mentors: Morris, Sara
Presentation Type: Poster

Are warblers more likely to respond to greater rates of flight calls?
We examined how several warbler species respond to different rates of species-specific flight calls, or high-frequency vocalizations given by birds. To record potential responses, a bird was placed in an electrically-shielded, acoustically-isolated recording chamber and played a randomly-generated sequence of flight calls. We found that the flight call rate heard by a bird did not have a significant effect on the presence of flight call responses, although this was marginally significant for American Redstarts separately. There was also no effect on the flight call rates, on time until first response, or on the presence of wing-flapping behavior. These observations suggest that the amount of flight calls a bird hears is not correlated with flight call vocalizations or wing-flapping behavior of the bird. These results fail to identify the function of flight calls, but may suggest an important role of atmospheric conditions in influencing vocal and physical avian behavior.

Student: Joly, Jordan
Co Authors: Gorrell, Nate, Pruszenski, Madeline
Faculty Staff Mentors: Cornelisse, Tara
Presentation Type: Poster

Urban Insect Habitat Assessment within Buffalo, New York
Urban areas can support insects when suitable habitat is present. Through the use of Google Earth Pro we assessed potential insect habitat in Buffalo by digitizing green space within city limits. We measured the area of each plot as well as percentage of trees, shrubs, grass, water and human infrastructure. Plots were ranked 0-5 in two ways: one is of plots with relative habitat heterogeneity and another with pollinator (grass and shrubs) habitat availability. Area was not correlated with increasing rank, while human infrastructure was negatively correlated with natural habitat in general. We will use this database to determine areas for insect conservation, particularly in the Buffalo area.

Student: Kelley, Allison
Co Authors: 
Faculty Staff Mentors: O'Neil, James
Presentation Type: 2 or 3 Dimensional Art

The Away
We live in a society that relies on disposable products. I hope this projects sheds some light on the damage this ideology causes to the environment we all rely on. I hope to spur a change in the way we view our waste and give people a reason to ask for their sub without a bag. If the attitudes of the consumers change, businesses like Subway will have to change to accompany it.
Use of Physical Barriers by Domestic Cats to Facilitate Proximity

Domestic cats are peculiar in evolutionary terms because they evolved from solitary animals but now often housed with other cats in homes and shelters. My research project examines the social structure of adult cats in colony housing at the SPCA. I am assessing how cats use items provided to them in their enclosure to create physical barriers between themselves and other cats. From time lapse, I record the locations of the cats relative to each other and the physical barriers in the room. The data suggest that the cats are using enrichment items as social barriers to promote proximity.

The Impact of Triclosan on Epilithic Biofilm, Function, Composition, and Resistance

Triclosan is the active ingredient in antibacterial consumer products and may have an impact on microbial-mediated processes in rivers. We assessed the impact of triclosan on epilithic biofilms collected from Cattaraugus Creek in western New York. The biofilms were incubated for three weeks at four environmentally relevant concentrations. We found that triclosan significantly reduced chlorophyll a content of the biofilms, but did not affect biofilm function (e.g., enzyme activity, respiratory rate, photosynthetic rate). Subsequent tests showed that culturable bacteria from the biofilms were not resistant to triclosan. However, the active dose is an order of magnitude higher than our highest treatment concentration.

SURF Social Skills Curriculum for Students with ASD at Highgate Heights Elementary School

An average of 1 in 68 children in the United States are diagnosed with autism spectrum disorder (ASD). ASD is a developmental disorder that causes difficulty in social-emotional interaction, communication, and behavior. At Highgate Heights Elementary School in Buffalo, they have 4 classrooms designated for students with ASD. Collaborating with Associated Occupational and Physical Therapists, a social skills curriculum entitled "The Learning Through Sun, Sand, and SURF Curriculum" has been used over the past 4 years to teach these students with ASD a set of social skills to be used both in and out of school. The acronym SURF stands for: (1) Stay in the group, (2) Use my SEE steps (SEE stands for the Sound of your voice, Expression, and Eye Contact), (3) Remember to give compliments, and (4) Find a friend to talk to. This poster will review both student and teacher feedback in addition to how the SURF curriculum has impacted participant academic and social outcomes.
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Reading Rainbow: Using Transmedia to Promote Children’s Literacy
This poster presentation will evaluate Reading Rainbow’s use of transmedia to increase children’s literacy and interest in reading. Transmedia is a term that is used to describe a united experience created by using various types of media to collectively represent a media product. Reading Rainbow uses transmedia to not only benefit its own brand, but also as a tool to provide young readers with a more enriching learning experience through media including television the Internet, and an App.

Chronic Nitrate Concentrations Alter Epilithic Algal Community Structure and Function
Nitrogen transport by streams and rivers contributes to eutrophication and hypoxia in downstream lakes and marine areas; however in-stream nitrate processing by river biofilms can slow the rate of transport. We assessed the effect of chronic nitrate loading on epilithic biofilm characteristics. Cobble substrates were collected from Buffalo Creek and incubated for 3 weeks at four nitrate loads (0.05, 0.5, 5, and 25 mg/L) in laboratory mesocosms. Increased chronic nitrate led to the formation of thicker, algae dominated biofilms, demonstrated by greater rates of photosynthesis, and chlorophyll contents, but lower affinity for nitrate.

Euclid’s Proof of the Pythagorean Theorem
Euclid, and his book, The Elements, may be one of the most known and studied books of the Western Civilization. Abraham Lincoln, Isaac Newton, and Archimedes are among the many who studied the Elements. Euclid’s book has 13 books with 465 propositions about all different topics of Mathematics. Euclid’s findings and proofs are still used today in Mathematics. Throughout math classes in middle school and high school, all students are given the Pythagorean Theorem as a basis to solve different geometric and trigonometric problems. However, most don’t know how the commonly used formula was brought to be and that Euclid proves this fact with the use of his previously established propositions. This poster gives definitions, postulates, and notions that are commonly known today and are needed to form the proof of the Pythagorean Theorem, and the proof itself.
Bone Braille: A Memoir-Based Performance

Through the art of performance, "Bone Braille" explores the relationship between a father and his children from his daughter's point of view, and underlines the urgency an older sister feels to protect her younger brother from life-altering disappointment. Mediums of poetry, projections, drumming, extended monologue, popular music, and traditional theatrical scene work serve as the vehicle for the question this memoir begs: How much can we really protect those we love from feeling pain?

Best Defense Against Cyber-Attacks: Education

There has recently been a large focus on how the international community and domestic governments can protect themselves and their people from cyber-attacks. Their responses to cyber-threats range from increasing the budget in their cyber-security efforts to the creation of international organization focused on cyber-security.

However, increasing the budget in cyber-security, creating new policies, or even creating a new international organization is simply not enough to protect individuals from cyber-attacks. As technology becomes more accessible, cheaper, and more part of our lives, more and more people who are not aware of risks in the internet, connect to internet. This makes them easy prey for cyber-criminals to exploit. The solution to this is education. There has to be a norm shared by the international community of states must implement the basics of cyber-security into their formal education system, so individuals can identify threats and prevent becoming a victim.

The Impact of Domestic Actors on Leadership: Putin and the Russian Orthodox Church

The purpose of this research is to demonstrate the salient, yet sometimes overlooked, political role of domestic institutional actors on the actions and behaviors of individual leaders. This paper examines the case of Russia, and specifically how the Russian Orthodox Church (ROC) impacts and influences the leadership of Vladimir Putin. A variety of Putin's actions as president that are motivated by the relevant role of the ROC in Russia's political realm are examined and analyzed. In fact, Putin would not have been able to garner crucial support and power without the assistance of this institution, and is in many ways beholden to the ROC. This research dispels the frequent overemphasis on personalistic power and
charismatic appeal associated with leaders like Vladimir Putin and depicts the importance of studying the political role of domestic institutional actors.

**Student:** Licastro, Angelo  
**Co Authors:**  
**Faculty Staff Mentors:** Wood, Michael  
**Presentation Type:** Poster  
**Time:** 11:00am-12:00pm  
**Location:** Science Hall Commons

**BED: The Beam Dump eXperiment (BDX) Event Display**

The Beam Dump eXperiment (BDX) at Jefferson Lab is a search for light (MeV to GeV) dark matter (DM) particles, which are theoretically well-motivated, but remarkably unexplored. The experiment will scatter a high-energy electron off a nucleus to create DM particles. Because BDX is sensitive to DM-nucleon elastic scattering and is limited by reducible cosmogenic background radiation, such undesirable events of random background must be eliminated by anti-coincidence electronics and data analysis. As a result, the implementation and the use of accurate visual event display software, such as the BDX Event Display (BED), is imperative. My poster will discuss my development of BED in Genoa, Italy as part of the DOE-INFN Summer Exchange Program.

**Student:** Liszewski, Kyle  
**Co Authors:** Smith, Lauren E.  
**Faculty Staff Mentors:** Sanders, Neva  
**Presentation Type:** Poster  
**Time:** 1:00-2:00pm  
**Location:** Science Hall Commons

**Effects of an in-class Activity on Perceived Comfort with Future Participation in the Course**

The purpose of this study was to examine whether using an in-class activity on the first day of a course affected students perception of comfort with future, voluntary participation in the class (e.g., asking questions). The level of students’ comfort with active participation in the course was assessed at the beginning of the first day of class and then followed by a semi-structured class activity that provided students the opportunity to openly interact with one another. After the activity, the students’ comfort level was re-assessed to determine if the activity had an impact on their perceived likelihood to engage in future class participation.

**Student:** Long, Ashley  
**Co Authors:** Braun, Miakela Walker, Macey Thompson, Delia Heck, Lindsay  
**Faculty Staff Mentors:** Kozlowski, Karl McDonald, Christin Thomeer, Marcus Lopata, Chris  
**Presentation Type:** Poster  
**Time:** 3:00-4:00pm  
**Location:** Science Hall Commons

**Physical Activity in Low Functioning Autism**

Method: 6 children, 4 male and 2 female, with LFA (: 9.5 2.5 yrs., 65.2 lbs.) wore triaxial accelerometers to assess PA over 6 consecutive days (with the exception of 2 who wore it for 2 and 3 days) except
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during sleep and water activities. Cut points were assessed for sedentary, moderate, light and vigorous PA (Evenson, 2008). Moderate and vigorous counts were then combined (MVPA) and descriptive statistics were used to evaluate the data and to evaluate relationships between the various levels of PA. Results- LFA children recorded a low daily average wear time (608.6). There were large differences between average daily minutes spent in sedentary (347.8), light (224.5), moderate (23.7), vigorous (12.6). The group did not minimal recommendations for MVPA in children. Conclusion- Majority of PA in LFA is spent in sedentary activity. There is also an inverse relationship between the intensity of activity (light, moderate and vigorous) and minutes spent per day in that intensity.

Student: Lorenc, Mariah
Co Authors:
Faculty Staff Mentors: Noonan, Michael
Presentation Type: Poster

Abdominal Rubbing in Captive Beluga Whales (Delphinapterus leucas)
This project involves discovering the significance behind the behavior of genital rubbing seen in captive beluga whales. The goal is to determine when, and why this behavior typically occurs. This has been done by observing 24 hour video footage, while recording each instance and duration of a rubbing event. This appears to be a rather stereotyped behavior in which the whales adopt a characteristic arched back position. This can be performed while in motion, or while at rest. Preliminary observations suggest that whales generally engage in rubbing if other whales are also participating in that same behavior.

Student: Louis-Charles, Rayel
Co Authors:
Faculty Staff Mentors: Fisher, Jane
Presentation Type: Oral/Digital

"It's Quite Simple, Really."
In Gertrude Stein’s essay "Composition as Explanation", Stein defines the process by which someone, or something, begins as an outlaw, and becomes a classic. This essay will focus on what makes a work a classic or an outlaw through the lens of sexuality, correlating sexuality with social normalcy. Oscar Wilde's The Importance of Being Earnest, Virginia Woolf's Mrs. Dalloway, and Gertrude Stein's The Autobiography of Alice B. Toklas are classics in their aesthetic structure but outlaws in their representation of sexuality.

Student: Malecki, Zachary
Co Authors:
Faculty Staff Mentors: Koehneke, Peter
Presentation Type: Poster

Effects of the Collegiate Baseball Season on Shoulder Flexion and Proprioception
The purpose of the study is to determine if upper extremity proprioception changes following participation in NCAA intercollegiate Division I baseball. Athletic trainers, physical therapists, and other
health care professionals anecdotally report visible changes in patient upper extremity proprioception following overhead throwing baseball activities. This apparent phenomenon has not been validated in the literature using goniometric or inclinometer measurements in patients continuing participation. We are interested in determining if there is a change in measured proprioception following baseball activity using an inclinometer. There are no known risks for healthy young adults.

Student: Mariacher, Audrey
Co Authors: 
Faculty Staff Mentors: Wanzer, Melissa
Presentation Type: Poster
Time: 1:00-2:00pm
Location: Science Hall Commons

The Kevlar Ceiling: An Analysis of Discrimination in Leadership Positions for Women in the Military
Up until January 2016, combative roles for women in the military were restricted, making it increasingly more difficult for them to achieve executive positions. The White House Projects report on benchmarking women’s leadership in March of 2010 found that the military is the worst out of all professions examined in that study coming in with only 11 percent of women making up top leadership positions. While there may be glass ceilings and walls that many employed women face, women in the military face different challenges. The policies that control where people can and cannot serve, in addition to what jobs they can do based on their gender, has resulted in a Kevlar Ceiling preventing a disproportionate number of women from attaining the top of the military ladder. This paper seeks to analyze the gender stereotypes and societal expectations communicated to women throughout their life and how they are, in part, responsible for the construction of this "Kevlar Ceiling."

Student: Marlinski, Courtney
Co Authors: Christie, Molly
Faculty Staff Mentors: O’Brien, Jonathan
Presentation Type: Poster
Time: 9:00-10:00am
Location: Science Hall Commons

Effects of Resource Availability and Predators on Food Web Dynamics in An Urban Stream
We used experimental baskets in Ransom Creek to examine the influence of bottom-up (resource availability) and top-down (predator) effects on food web dynamics in an urban stream. We created wire enclosures around the baskets to examine top-down effects by excluding larger predators (fish, crayfish) and added leaves to test for resource limitations. Midges and damselfly larvae significantly increased as a direct effect of the cages, suggesting that they were limited by predators. Leaf inputs resulted in an increase in the density of crustaceans (amphipods and isopods). This data suggests a mix of top-down and bottom-up processes structure urban stream food webs.
The Parameters of Water Jet Production in Beluga Whales

Beluga whales are known to produce water jets from their mouths, which they use as tools to manipulate their environment. The goal of this study is to assess the velocity and volume of individual jets from different beluga whales. The method for collecting data was to have trained whales spit water jets at a calibrated board. The projected water then flowed into a trough from which the volume was measured. The results suggest that the water jets reach speeds of three meters per second, in volumes as high as four liters. These findings illuminate how impressive and forceful the water jets of beluga whales can truly be.

Cats in Inner Space: their spatial use within a shelter setting

Cats often have specific temporal ranging patterns when it comes to sharing spaces and resources in the home. However, little is known about how cats navigate the much smaller space provided in a shelter setting. I am studying the use of the three-dimensional space by cats housed in shelter colonies. The data for my research project comes from the Erie County SPCA. Using mounted GoPro cameras, a picture is taken every minute in each colony room. I created a three-dimensional map for each room and record the number of cats in each sector, both vertically and horizontally, of the map for every third picture. The majority of the time cats seem to be on the periphery of the floor (A level) or on the shelf (D level) where there is more privacy and resources like beds or crates are present. Through this research, shelters can gain better understanding of how cats utilize the space and structures in interacting with each other, which can lead to improving the spaces for future cats.

The Voice of the Vanishing Indian

Throughout American history and literature, American Indians has been described as "savage," "dangerous," and "untrustworthy." They have been stripped of their human rights, leaving them voiceless. In 1827, Catharine Maria Sedgwick published Hope Leslie, a novel where for the first time a female American Indian character is given a platform to speak of the injustices her people have suffered from at the hands of the white man. Centered on the events of the Pequot War of 1637, Hope Leslie takes the readers on a historical journey, telling the story from the American Indians’ point of view.
Female Sexuality: A Battle of Third Wave Feminism and Popular Media

Throughout history, female sexuality is something that has been interpreted in many different ways. Today, third wave feminism aims to de-stigmatize female sexuality in a way that makes it more possible for one to embrace this aspect of one's self. By eliminating gender stereotypes associated with sexuality, third wave feminism (among other things) encourages females to embrace their sexuality as a form of power. However, modern-day traditional media makes this very hard to do, for young girls especially. Through the objectification of women on TV, in magazines and video games, the female body is hyper-sexualized to the point of degradation. Through many forms of media, females are being degraded, not empowered, through their sexuality. In a world entrenched in different forms of media, it is important to recognize the difference between empowerment and objectification of the female body. This paper describes research that addresses these issues.

Drawing I Artwork

The two-dimensional artwork created in Drawing I focused on using traditional materials to render finished still life drawings. Pencil and charcoal were used to replicate objects and scenes from everyday life, using fundamental skills learned in class. These skills included direct observation, sighting, perspective, and composition. Works produced in this class were objects arranged in a still life, drawings of interior architecture, human figures, and outdoor scenes. A sketchbook with observational drawings was to be worked on outside of class.

Curiosity is a Gateway to Exploration

Our presentation will discuss ways we have personally improved by adapting to cultural differences we experienced while studying abroad. We have become more independent, confident, and well-rounded because of our experience abroad, something that will help us when entering the job market. Adapting to the Argentinian sleep and meal schedule, as well as sharing rooms with strangers, taught us to go with the flow and be more courteous and respectful of others. Our sense of direction, public speaking, and proficiency in Spanish also improved, and we have plenty of stories to share to further highlight how much we have grown.
Electroskip
Electroskip is a multidisciplinary collaborative project involving students and faculty from computer science, digital media arts, physics and pre-engineering. The project involves embedding pressure sensors in the heel and toe of shoes. These sensors act as triggers for an onboard microcontroller to send wireless MIDI messages to a computer. The messages are sent using an XBee radio. The MIDI signals are in turn converted into music using real-time digital audio streaming, so that the movement of any dancer or individual wearing the sensors in their shoes produces music. We use digital audio workstations such as Logic Pro X and Ableton Live equipped with various virtual studio technologies to create a multitude of sounds, sets, and innovative ways for the wearer to perform engaging and interactive music.

Marketing Agency Presentation
Gelia is a marketing agency in the Buffalo area, and I work in the interactive design section, which means I code EDMs, code and design web sites and animate banner ads. Although these are the technical aspects, there is a lot more to working at an agency than just having design skills. I work with people, deal with different personalities, and learn when to take advantage of opportunities. Being at an agency presents opportunities to also get involved in other organizations and expand connections and ideas by doing pro bono work and being involved in the professional organization, Ad Club of Buffalo. There are additional aspects of being part of a professional agency that cannot be learned from class assignments alone. I will describe and discuss these aspects of my experience in my presentation.

Gender Differences in Salary and Salary Negotiations in the Workplace
This paper examines the gender differences in salaries and salary negotiations that women face in the workplace compared to men. Despite the positive strides that women have made towards equality, they still face a glass ceiling when it comes to the industries they can find employment in, the job titles they hold, and the salaries received. This paper begins by looking at historical trends in women's careers and salaries and how those trends have continued today. It continues with an exploration of the wage gap in Hollywood, how actresses struggle with salary negotiation compared to actors, and what that means for working women everywhere. After discussing salary negotiation further, the effects that unequal
pay can have on women are explained, from the financial strains to psychological issues and workplace stress. This paper concludes that while there has been progress for women in the workplace, data and statistics prove that there is still a long way to go.

Student: Murphy, Kayla
Co Authors: Butler, Robert
Faculty Staff Mentors: Butler, Robert
Presentation Type: Oral/Digital

The Black Hole of Depression: The Bell Jar
350 million people worldwide (19 million US) suffer from depression. It is twice as likely to occur in females; the age (15-34) decreases each year. It is an internationally growing problem yet many people do not understand what it is or how to cure it. Many believe it is simply being sad and one can "snap out" of it if desired which is not the case. This mentality was widely exemplified during the 1950's when the novel, The Bell Jar, took place. Many people either believed that depression was due to laziness, lack of will power, or a person's desire to be unhappy. However, it is a disease with many underlying causes & effects. Even now, only 1/3 of those suffering from depression seek help (w/o leads to suicide). Was Esther (19 yrs. old) cured for good after her therapies (electroshock, talk, etc.) pulled her from depression's black hole? It can overpower one's life. Lack of ongoing treatment leads to a 90% relapse. Depression is a disease not a choice made by the feeble minded to remain miserable.

Student: Musik-Kotlowski, Elijah
Co Authors: Margulis, Susan
Faculty Staff Mentors: Margulis, Susan
Presentation Type: Poster

Investigating Maternal Styles in Western Lowland Gorillas
Female western lowland gorillas are responsible for the care of their offspring within their troop. Within the troop, the mothering experience can vary between individuals and some mothers may be better suited to raise their offspring. The Buffalo Zoo maintains a troop of 6 gorillas (1 male silverback, 2 sexually mature females, 2 juveniles and 1 infant). The goal of this research is to determine the mothering styles or experience of the 2 sexually mature primiparous females (Sidney 18, Lily 14). Using a personality assessment and behavioral data collected and compiled on the troop since 2009 by Dr. Susan Margulis' research team, Team Ape, I looked at mothering styles and patterns in the data to determine the mothering styles of the gorillas. The data show a marked difference between Sidney and Lily, with Sidney showing more maternal behaviors than Lily. But, from the data both females appear to be good mothers, with infants showing similar developmental trajectories.
Ignatian Scholarship Day 2016 – Accepted & Endorsed Projects

Student: Nguyen, Thao-Charline
Co Authors: Mangold, Sarah
Faculty Staff Mentors: Putnam, Susan
Presentation Type: Oral/Digital
Time: 4:00-4:20pm
Location: SH 1028

Rural Nicaraguans’ Knowledge of Epilepsy: Etiology, Treatments, Stigmas, and Misconceptions

Epilepsy involves having 2 or more unprovoked seizures, which are brief episodes of involuntary movement that may involve the entire body or a part of the body. Between 50-70 million people live with epilepsy worldwide. Nearly 80% of these individuals reside in low-and middle-income nations, of which three quarters fail to get treatment. Moreover, epilepsy mortality is higher in lower income nations. Epilepsy in Latin America is most commonly caused by preventable factors. Yet, there is a lack of data concerning general knowledge in the populace regarding both environmental and infectious risk factors of epilepsy and common stigmas. The purpose of this study was to identify the most common misconceptions held by rural Nicaraguans about epilepsy in order to develop well-defined educational materials to decrease the morbidity and burden attributable to epilepsy. It is our goal that this study will contribute to improve the public health surveillance of epilepsy in rural Nicaragua.

Student: O’Connor, Tyler
Co Authors: Fisher, Jane
Faculty Staff Mentors: Rourke, Nancy
Presentation Type: Oral/Digital
Time: 12:00-12:20pm
Location: SH 036

Irish in World War I

World War One was an imperial war that did not only involve the imperial countries but their colonies as well. The colonies that made up these empires would gain a sense of national pride and identity in addition to imperial pride. Among Britain’s colonies, Ireland was not only trying to establish national pride and identity, but independence. The Irish nationalists used World War One as an opportunity to gain independence from Britain through loyalty, but ultimately earned it through force. Ever since the British invaded in the 13th century, the Irish had tried but failed to win independence. With the outbreak of World War One, Irish nationalists seized upon a distracted Britain to launch another rebellion: the Easter Uprising of 1916. It failed, but the aftermath inspired widespread Irish militancy that ultimately won Ireland self-government after the Anglo-Irish war in 1919-1921. Thus, the outbreak of World War One helped put Ireland on its path toward eventual independence.

Student: Ofodile, Lotachukwu
Co Authors:
Faculty Staff Mentors: Rourke, Nancy
Presentation Type: Poster
Time: 3:00-4:00pm
Location: Science Hall Commons

Contraception or Misconception: Definitions, Objections, and Useful Applications

Contraception is still a very disputed topic which poses a moral dilemma, since it is deemed a sin against natural law by Catholic teachings. Part of the Church’s objection to contraception stems from the fact that contraception comes in many forms, some of which may involve abortive measures (another issue that goes against the Church’s doctrine). Other issues with contraception are that its mere availability and accessibility might be seen as promoting either pre or extra-marital sex (or both), another major
Ignatian Scholarship Day 2016 – Accepted & Endorsed Projects

Concern of the Church, and the fact that the use of contraception goes against a Divine purpose of sex, which is human procreation. This paper focuses on the categorizations of various forms of contraception, as well as specific biomedical, sociocultural, and economic factors peculiar to certain individuals that might necessitate the use of contraceptive measures for the sake of family planning, and disease control and prevention.

Student: Olek, Hannah
Co Authors: Location: SH 1013B
Faculty Staff Mentors: Widenor, Yvonne
Presentation Type: Oral/Digital

Preserving Ephemeral: Documenting Performance Art in the 21st Century

My discussion of documenting performance art in the 21st century will examine how the essence of performance art as a medium has been altered by the emergence of widely available global technologies in the 21st century. Post-Modern performances of the 1960s and 1970s were ephemeral by default, because the technology did not exist to create high-quality video recordings or for viewers to document the act themselves on a personal smartphone with the option of being instantly shared on social media. Performance as a medium has always emphasized the feeling that the viewer or participant will take away from experiencing the artwork first-hand, not the performance as a singular work of art. Video documentation of these works as spectacle opposed to an intimate moment shared between artist and viewer questions that which constitutes a work as performance art. Performance art today battles with these issues, and the art historian must question how the ephemeral moment can be preserved.

Student: Orgek, Caitlin
Co Authors: DiCicco, Jonathan
Faculty Staff Mentors: Location: Science Hall Commons
Presentation Type: Poster

Model United Nations Topic Guides

Each fall, as a service to area high school students, we prepare topic guides for the Model United Nations Conference. The guides are valuable sources of factual information on issues and crises in global affairs; they require historical and current information but also need to be adaptable if sudden real-world changes arise in the final weeks before the conference. These topic guides also must be able to engage students from all different backgrounds, both in terms of their varying personal experience with Model UN, as well as through the lens of the country they represent. This past year I researched and prepared 4 of the 9 topic guides for the Fall 2015 conference, including contemporary guides on the Migration Crises and the Economic Empowerment of Women and guides for our Historic Security Council session, set in 1965, on the Dominican Republic and Southern Rhodesia. My presentation will discuss my research from 2015 as well as information for the 2016 conference.
Upper Respiratory Infection and its Effect on Colony-Housed Cats in Shelters

Sociability in cats can be influenced by space, availability of resources, relatedness, and physical health. We examined the prevalence of Upper Respiratory Infection (URI) in shelter cats and the effects of URI on the social behavior of the cats. We categorized the cats as: healthy (n=49), unhealthy/no URI (n=67), unhealthy/URI (n=34) and cats with only URI (n=15). Through live observations, we recorded the body position of the cats relative to the others in their colony. There were not large differences in social behavior across the different URI categories. About a third of the cats in each category were social.

The Non-Denumerability of the Continuum

The 19th Century was a time of mathematical freedom in which abstract concepts were examined. It is well known that calculus was founded in the late 17th century, however, it became clear during the 19th century that the foundations of calculus were unstable. Gregor Cantor, a Russian born mathematician realized that the properties of sets were an important fundamental of calculus. Cantor, the father of Set Theory, found that finding a means for comparing the sizes of sets and comparing their differences was of great significance. In doing this, Cantor explored the infinite, a concept that had previously been neglected due to its perplexity. In his analysis of sets, it had first seemed that all sets were able to be put in a one to one correspondence with the natural numbers; however, Cantor came across the set of real numbers which he introduced as the first denumerable set.

The relationship between activity, resilience & symptoms in collegiate athletes after concussion

PURPOSE: To describe the methods to be used to investigate the relationship between physical activity (PA), resilience, and symptom presentation in college athletes following acute concussion.

METHODS:
Population- 15 athletes with concussion, 15 with orthopedic injury, 15 matched controls
Measures- Accelerometer, 5x5 Resilience Scale, Symptom Checklist, Health History
Procedure- Participants will be recruited through the Athletic Trainers (ATC) at Canisius College. The
investigators will gather contact information, Informed consent, and a general health history will be taken in the first 24-hours post injury. The athlete will complete the 5x5 Resilience Scale, developed by DeSimone et al.(2016), and given symptom checklists and an accelerometer to record sedentary, light, moderate and vigorous intensity PA for 10 days or until asymptomatic. Additional 5x5 RS measures will be administered following the 10 day/or asymptomatic period and during a one month follow-up.

**Family Business Governance Project**
Maximizing family & business potential. Family governance refers to structures, control and processes in order to manage relations between the business and the family function. It is important to distinguish the overlap of the two functions because it creates a value of conflict when it comes to hiring, firing, promoting, discipline and many others. The governance portion of family business works as a framework for building a family council, a board of directors, a family constitution and more. All of these elements are essential to maintain the major functions of the family business and relieve any potential conflicts that may arise between the family and the business functions which can become detrimental.

**Why Does Koga Hate Me?**
Koga, the silverback gorilla at the Buffalo Zoo, has begun to act aggressively towards several members of Dr. Margulis' research team. He appears to attend to the movements of those observers and occasionally displays more aggressive behavior towards them. This study examines the data collected by the research team to see if the data collected by these specific people were affected by this. We compared Koga's activity budget collected by the four members that Koga reacted more strongly towards versus four other research team members.

We did not find any noticeable differences in Koga's behavior, despite his apparent fixation with these four targeted individuals. These initial findings suggest that we can continue our research on the gorillas without skewing the data. We will continue to collect data and try to find other variables that may be causing Koga's reaction towards specific individuals.
**A Comparison of Male Behavior Between Bachelor and Mixed-Sex Groups of Captive Chimpanzees**

Due to the rapid influx of former research chimpanzees into sanctuaries, some institutions are compelled to try nontraditional social housing. As sanctuaries cannot control the sex of the incoming apes, some sanctuaries have begun to use all-male, or bachelor, groups. However, there is little to no existing scientific research on captive chimpanzee bachelor groups. This study compared the male behavior and proximity data of two chimpanzee groups, a mixed-sex group and a bachelor group, housed at Chimp Haven between July 14, 2015 and August 6, 2015. The two groups displayed similar activity budgets, save for one significant difference in aggressive behaviors. The mixed-sex males showed significantly more aggressive behaviors. The mixed-sex males also spent markedly more time near conspecifics, but not to a level of statistical significance. While more data are needed to confirm, the results of this study display the potential to viably house chimpanzee bachelor groups in captivity.

**Dogs' responses to visual, auditory, and olfactory cat-related stimuli**

Standardized assessments using models of dogs or children are currently used by shelters in attempt to predict if a dog would be aggressive towards these individuals in a future home. However, the dog’s perception of these assessment tools and their validity in representing behavior remain questionable. In order to further explore the use of these model devices, survey data were collected on dog behavior and dogs were exposed to visual, auditory, and olfactory cat-related stimuli. Findings suggest that dogs are able to distinguish between cat and control stimuli, and that auditory stimuli could be used as an assessment tool.

**Benefits of Language Development and Culture Awareness gained from a study abroad experience**

Our project discusses multiple benefits of a study abroad experience for university students. As backed by various studies outlined in our project, the study abroad experience aids in foreign language acquisition, cultural awareness, and development of important life skills necessary for success in a diverse and interconnected world. As university students who recently partook in a study abroad program in Mar del Plata, Argentina, we connect our personal experiences with the theory-supported benefits of participating in a study abroad.
Student: Rosenecker, Connor  
Co Authors:  
Faculty Staff Mentors: Reed, Philip  
Presentation Type: Oral/Digital  
Time: 10:00-10:20am  
Location: SH 1017

Shared Space: For Who Should We Design Our Streets?
In the wake of suburban sprawl, a new idea for street design has emerged in some places. "Shared Space" aims to weaken the reign of the automobile by eliminating street signs, curbs, traffic lights, crosswalks, etc. and so allows for equalized use of the space between human beings and automobiles. I argue that Shared Space carries validity and credibility as a feasible, and even preferable, approach to modern streetscape. Overall, the quality of a public space is evidently emphasized and undoubtedly improved when the setting is made into a Shared Space.

Student: Ruszaj, Marc  
Co Authors: Velardi, Francesca  
Westermeier, Annelise  
Faculty Staff Mentors: Putnam, Susan  
Presentation Type: Oral/Digital  
Time: 4:30-4:50pm  
Location: SH 1028

The Influence of Music on Athletic Performance, Salivary Cortisol and Testosterone in Elite Swimmers
The present study examined the relationship among mood, music, performance, and salivary cortisol and testosterone levels in 31 elite swimmers. The musical track "SMASH!" was selected as "motivational" upon the statistical analysis of 102 questionnaires completed by college students. Two trials were conducted at the same time of day one week apart. Participants were randomly assigned to one of four groups: female with music during first trial, male with music during first trial, female without music during first trial, and male without music during first trial. Participants provided three saliva samples for cortisol and testosterone analyses: a baseline sample, a sample provided after a warm up, and a third sample obtained after a competition-like race. Data from all assessments are currently being analyzed to determine if listening to music before a race has an influence on stress, testosterone, performance, and an individual's perceived mood.

Student: Sacheli, Molly  
Co Authors:  
Faculty Staff Mentors: Donnelly, James  
Presentation Type: Poster  
Time: 1:00-2:00pm  
Location: Science Hall Commons

Mind-Body Therapies for Patients with Addison's Disease
Stress and anxiety can lead to worsening physical symptoms in chronic conditions such as lupus, heart disease, and Crohn's Disease. Mind-body therapies have been shown to be useful in relieving both psychological and physical symptoms in patients with such conditions. As yet, there is no research on mind-body therapy for patients with Addisons Disease, a disorder of the adrenal glands. Adrenal gland disorders affect stress hormones (cortisol, norepinephrine, epinephrine), leading to physical and psychological symptoms. This paper examines possible outcomes of mind-body therapy and concludes with a proposal for research on mind-body therapy for patients with Addisons Disease.
Does Conservation Knowledge Affect Behaviors Towards Insects in 4th & 5th Grade Students?

We have potentially lost 40% of insect species despite their diversity and ecological importance. General insect ecology and conservation issues are not commonly taught in K-12 classrooms, yet evidence suggests that environmental attitudes are shaped before age 12 and that knowledge and attitudes are highly correlated in young children. We conducted lessons in 4th-5th grade classrooms in Buffalo city and suburban schools; half of the classes received basic insect ecology knowledge, half received lessons on insect conservation and ecosystem services. We administered a pre and post survey to detect changes in attitudes and stated behaviors towards insects in both groups. I will present our preliminary results. With limited class time for insect ecology and even less for conservation, we will show how educators can target lessons to enhance attitudes towards insects and their conservation.

Relative Body Size Scaling in Drosophila melanogaster

In any organism body-size is a fundamental trait, affecting the outcome of selection. While body size is often studied in an evolutionary context, it is unknown whether all components of body size change at the same rate (i.e. scale), under selection pressure. In Drosophila melanogaster main body size components include: head, thorax, abdomen, wings, & legs. In Dr. Andrew Stewarts lab, a long term (>10 years) selection experiment has been running, where lines of flies have been selected to be smaller, larger, or disruptively selected (i.e. large males and small females). The body size of flies in these experimental treatments all changed in predicted directions, relative to control flies. This study utilized these lines to address the question of body size scaling. Comparisons were made using wing and thorax size of both males and females from each of selected populations. There is a strong linear relationship between thorax and wing size, indicating changes in size are largely scalar.

A Spiral of Reincarnation Ended: The Destruction of Subjects of Power in "Wieland"

Critics David Lyttle and Jane Tompkins have made the claim that the characters in Charles Brockden Brown’s Wieland (1798) are trapped in a system by which they are successive reincarnations of their parents’ generations. In my paper, I critique this claim and examine how the characters of the novel break this cycle by not having children: Clara marries Pleyel, but seems to have no desire for children; Carwin establishes himself in a Lockean anarchic state on a farm in Pennsylvania; and Wieland, who
had children, kills them, and then himself. In considering Wieland’s political situation as a novel in fledgling America, the novel forecasts a grim future for the new nation.

**Student:** Schmidt, Laura  
**Co Authors:**  
**Faculty Staff Mentors:** Angelini, Eileen  
**Presentation Type:** Oral/Digital  
**Time:** 12:00-12:20pm  
**Location:** SH 1053

**Papa Doc’s Reign of Terror**

This presentation, originally delivered completely in French for Dr. Eileen M. Angelini’s FRC 454: Héritages francophones, centers on the former Haitian dictator, Francois Duvalier, better known as Papa Doc. His reign of terror spanned from torture chambers and embezzlement to dark voodoo worship and ultimate corruption. This presentation also focuses on how this ruthless man affected his people, causing mass migrations and the creation of foreign born ghettos in Miami and New York City that still exist today.

**Student:** Sementilli, Julia  
**Co Authors:**  
**Faculty Staff Mentors:** Wanzer, Melissa  
**Presentation Type:** Poster  
**Time:** 9:00-10:00am  
**Location:** Science Hall Commons

"Are You Really Going To Eat That? Perceptions of Gender Communicated To Both Males and Females"

From the time we are born, societal norms shape our perceptions of gender. It is not unusual to receive comments on our clothes and whether they are good or bad while also hearing remarks about what body shape is preferable, and what physicality is considered overweight. We also absorb the perceptions communicated by the media, sometimes without even knowing it. This experience might include watching a TV show in which the main character is thin and blonde and later thinking that this represents the ideal image of beauty. For my paper, I focus on the complicated relationships among gender, body image, and the media. I review scholarship that describes how the media affects our self-images and shapes perceptions of gender appropriate behavior.

**Student:** Shannon, Brendan  
**Co Authors:**  
**Faculty Staff Mentors:** Desiderio, Jennifer  
**Presentation Type:** Oral/Digital  
**Time:** 12:00-12:20pm  
**Location:** SH 035

**Sexism in Ruth Hall**

Fanny Ferns semi-autobiographical novel, Ruth Hall, comments on the disadvantages that women faced in the working world during the middle of the nineteenth century in America. Ruth tries to work a number of different jobs so that she can provide for her two daughters; however, she is ultimately unable to do so because of the gendered limitations on working women in the nineteenth century. She eventually attempts to make a living as a writer, overcoming numerous obstacles in front of her because of her gender. Through the course of the novel, Ruth transitions from a submissive woman to an independent, self-sufficient author, a symbol of feminine strength and ability. Fern makes it
especially clear that this was no easy task, because she did not have the support of her friends, family, or even society.

Student: Shannon, Brendan
Co Authors: Fisher, Jane
Faculty Staff Mentors: Fisher, Jane
Presentation Type: Oral/Digital

Time: 12:30-12:50pm
Location: SH 035

The Flâneurs of Modern Cities
The early twentieth century was a time period in which authors began writing about characters and the ways in which they interacted with the urban landscape. Out of this, the flâneur becomes a key figure in literature who is inspired by life in the city. Stephen Dedalus in James Joyce’s A Portrait of the Artist as a Young Man, wanders through Dublin in constant contemplation, his thoughts stimulated by the ceaseless activity of the city. Peter Walsh in Virginia Woolf’s Mrs. Dalloway, walks around the streets of London experiencing a wide range of emotions; however, at the base of all these feelings is a sense of the endless possibilities London has to offer. In Claude McKay’s Home to Harlem Jake and Ray experience the rise of African-American culture in Harlem. Each of the characters previously mentioned is an example of a flâneur figure because of the stimulating ways that they experience life in their respective cities.

Student: Shaw, Shannon
Co Authors: Weston, Anthony
Faculty Staff Mentors: Weston, Anthony
Presentation Type: Oral/Digital

Time: 12:00-12:20pm
Location: SH 1004

A Mathematical Twist: An Introduction to Knot Theory
One of the most modern and active areas of modern mathematics is knot theory. Knots are used in practical ways every single day, but knots can be seen in many other icons and symbols. The basis of knot theory is to classify the various knots and to determine whether two knots are equal mathematical objects. In recent years, knot theory has been used in the study of equations that describe weather systems, mathematical models in physics, and the study of DNA in molecular biology. Theorists believe that through the recent attraction to knot theory, advancements can be made in many fields of study, not solely mathematical theory. However, the theory of knots is still as mysterious as ever; its major problems are still unsolved and there is plenty of work to be done, but over the past 130 years, there has been immense progress.

Student: Smith, Erin M.
Co Authors: Suchak, Malini
Faculty Staff Mentors: Suchak, Malini
Presentation Type: Poster

Time: 1:00-2:00pm
Location: Science Hall Commons

Responses of shelter cats to acutely stressful situations.
Cats in shelter environments are exposed to a variety acutely stressful situations during their stay. In this study, scan sampling of single and group-housed cats at the SPCA of WNY was performed in periods with and without acute stressors to determine how cats react, with a focus on social interactions and
behavioral signs of discomfort. Stressors included visitors, volunteers, or staff members in or around the rooms; cleaning of the rooms; and general disturbances, which consist of elevated noise levels or activity from other areas of the shelter. Overall it was determined that cats exhibited different reactions to different categories of acute stressors.

Student: Smith, Justin
Co Authors: Desiderio, Jennifer
Faculty Staff Mentors: Desiderio, Jennifer
Presentation Type: Oral/Digital
Time: 2:00-2:20pm
Location: SH 1028

Defiance as Strength in Clotel

Clotel, by William Wells Brown, is widely considered to be the first novel authored by an African American male. The novels title character, Clotel, is the daughter of Thomas Jefferson and Sally Hemings, although the novel itself ranges past Clotel in terms of its scope. Brown’s novel incorporates not only his fictionalized narrative of Clotel, but actual accounts of the treatment of slaves, ex-slaves, and anyone of color in the United States. Despite Brown’s efforts, many African-American scholars of the 20th century criticized the novel for not depicting strong black male characters. These critics, though well-intentioned, were wrong in their assessment. Brown portrays strength in subtle ways, primarily through defiance. Brown uses Clotel to convey the idea of black strength through his own defiance of readerly expectations in terms of novel’s form and genre, and also defiance within the novel’s central and more anonymous characters.

Student: Sorrento, Hailey
Co Authors: Wolff, London
Faculty Staff Mentors: Weston, Anthony
Presentation Type: Poster
Time: 9:00-10:00am
Location: Science Hall Commons

Hippocrates

The ancient Greek mathematician Hippocrates wanted to solve problems such as "squaring a circle". This meant constructing a square with only a straightedge and a compass that would end up having the same area as a given circle. In this poster we investigate the life, times and mathematical works of Hippocrates.

Student: Sperber, Sara
Co Authors: Wolff, London
Faculty Staff Mentors: Margulis, Susan
Presentation Type: Poster
Time: 9:00-10:00am
Location: Science Hall Commons

Ranking Changes in Lowland Gorillas Before, During, and After Pregnancy

This study looked at Western lowland gorillas at the Buffalo Zoo, focusing on the interactions between the silverback male (Koga) and two adult females (Sidney and Lily). The point of interest was how the male interacted towards the two females before, during and after their pregnancies. Given that gorillas have hierarchies, a high ranking female should be displaced less than a low ranking female. Female gorillas are known to move up in the hierarchy when they have an infant. We hypothesized that prior to
having an infant, the dominant female would be displaced less often than the lower-ranking female, and that both females would be displaced less often by the silverback following the birth of their infant. We found that Lily received more displacements than Sidney before, during and after pregnancy suggesting that Sidney is the high ranking female. However, Koga displaced both females less when they had an infant suggesting that having an infant moves a female up in the hierarchy.

Euclid’s Elements
Euclid’s Elements was written around 300 B.C.E. and consists of 13 separate books. It is considered to be one of the most influential texts ever written and it was one of the very first books printed following the invention of the printing press. There are currently over 10,000 editions of the Elements, second in number only to the Bible. Similar to the Bible, the mathematical discoveries found within the Elements cannot be attributed solely to one person. Most mathematics historians agree that some proofs, and sometimes entire books, can be attributed to both peers and predecessors of Euclid. Notable contributors include Eudoxus, Pythagoras, Hippocrates, and many other Greek mathematicians whose names have unfortunately been lost in time. With that being said, Euclid still deserves the lion’s share of the credit. He did, at the end of the day, put together the greatest mathematical works of his time in a single text, facilitating their survival for the next 2300 years.

Growing Pains: Giraffe Edition
Giraffes are highly social animals. Adult females tend to have strong bonds, but it is not clear whether these bonds form between the calves themselves or if calves differ from one another in their social behavior. In October 2014, a male giraffe calf, Sampson, was born at The Buffalo Zoo to first time mother, AJ. The giraffe group also includes Agnes, an older female who has reared multiple calves in her lifetime, including the most recent addition Zuri a female who was born in February 2015. Our aim was to observe the behaviors of the two calves to see how they differed based on age, sex, and maternal experience. We collected data using focal animal sampling. The activity budgets of the two calves were similar. The only noticeable difference was shown in affiliation behavior, with Zuri showing more. The differences seen could be due to sex or maternal experience. More data on future births could help distinguish between the causes of the differences between these two calves.
Ignatian Scholarship Day 2016 – Accepted & Endorsed Projects

Co-Morbidity and Eating Disorders in the Adolescent Population
This presentation will describe the population of adolescents that suffer from Eating Disorders as well as other mental health problems. Clients who present with an Eating Disorder in the presence of other complex mental health condition(s) can be challenging in diagnosis as well as treatment. This research will show the prevalence of comorbidity, etiology, diagnostic criteria, social and cultural implications, as well as medical considerations. Effective counseling approaches will also be reviewed. A proposal for new research on this topic will be presented.

Social Influences in Dogs
Dogs (Canis lupus familiaris) can benefit greatly from paying close attention to both humans and their conspecifics within multi-dog households. As a part of this study, we used a local enhancement (LE) task to determine if the decision of one of the dogs would influence that of the other dog, and how this information might be related to rank or order of acquisition. During the LE task, we provided the dogs with two food-baited plates, and while the first dog was guided to a randomly selected plate, the second (observing) dog had the freedom to choose between the two plates. Rivalry scores found through accompanying survey results showed that high-rivalry dogs were significantly more likely to approach the full plate when there was no delay than were low-rivalry dogs. A follow up study conducted in the fall of 2016 looked at differences between delaying the dogs from his/her decision at the beginning of the experiment versus the end.

Heron’s Formula for Triangular Area
Heron was a mathematician in the post-Archimedes era who made many strides in the mathematics, geography, and astronomy fields. Though not much information is available regarding Heron’s personal life, there is much to learn about the advances he made in these areas. Specifically, Heron derived a theorem that contains the formula for finding the area of a triangle without having prior knowledge of the triangle’s height. Heron then went through an extensive process to prove that this theorem is valid. In addition to his own, there are other techniques to prove Heron’s theorem. The formula Heron derived is a key element in proving other theorems, such as the well-known Pythagorean Theorem.
Direct 2D DOSY NMR Evidence for Oligomer Formation by Transition-Metal Substituted Polyoxotungstates

Transition-metal substituted polyoxotungstates, when transferred into nonpolar solvents, have been reported as potential catalysts for carbon dioxide reduction. Therefore, their structures in nonpolar solvents are of great interest. Based on $^{31}$P NMR, UV/VIS, and DFT computations we suggested recently that cobalt-substituted phosphotungstate with Keggin structure ($\text{PW}_{11}\text{CoO}_{39}$) forms dimers in a dry toluene. This poster reports $^{31}$P 2D DOSY NMR measurements which demonstrate the existence of species with diffusion coefficient ratio approximately equal to the ratio of radii for dimers and monomers. This constitutes direct evidence for dimer formation. After coordinated water leaves cobalt in dry toluene, an oxide ion from a second $\text{PW}_{11}\text{Co}$ coordinates to that cobalt, leading to dimer formation. On the other hand, we suspected that TMSPOT with two water molecules coordinated to two cobalt atoms forms trimers in dry toluene, which has been verified by direct $^{31}$P 2D DOSY NMR evidence.

Exploring DNA mutations in yeast cultured in high glucose environments

High carbohydrate diets are a major contributing factor to a variety of diseases, including cardiovascular disease and cancer, and may also be an important factor in aging. The Burhans Lab at Roswell Park Cancer Institute is investigating the effects of high carbohydrate diets by modeling them in the organism budding yeast cultured in medium containing elevated levels of glucose. Whole genome sequencing of glucose-resistant strains revealed many mutations when compared to parental strains that had not been cultured in high glucose. By filtering mutations based on the frequency at which they appeared in different strains, candidates were chosen for further investigation. NCBI BLAST was used to find human homologues and to determine functional regions mutations could affect. Based on this information in combination with details about protein functionality (glucose pathways, mitochondria, or cell cycle regulation), final candidates were submitted for experimentation with deletion strains.
Comparing weekend activity levels in typically developing versus high-functioning children with ASD

**PURPOSE:** To determine the difference in weekend activity levels between typically developing (TD) children and children with high-functioning autism spectrum disorder (HFASD).

**METHODS:** 17 TD children and 18 children with HFASD wore accelerometers for at least 600 minutes on 1 or both days of the weekend. The cut points were determined for sedentary(S), light(L), moderate(M) and vigorous(V) activity (Evenson, 2008). Averages of each activity level were calculated and compared.

**RESULTS:** Children with HFASD showed higher average activity levels in S, L and V levels than TD children. TD children had higher average M activity levels than children with HFASD. There were no significant differences between the groups for activity levels (p-values of .642, .755, .773, .606, respectively).

**CONCLUSION:** Weekend PA levels did not significantly differ between TD and HFA children. Although no significant, the HFASD sample spent 30 more minutes in sedentary activity on average than the TD group.

**Euler's Achievement in Number Theory**

Leonhard Euler is one of the greatest mathematicians in history. His work, covering most varied fields of pure and applied mathematics, left a profound impression on the subsequent development of mathematical science. Most of his achievements in number theory consisted of proofs of statements left by the French mathematician Pierre de Fermat. This poster will introduce his work for proving the Little Fermat Theorem and the Fermat conjecture. Both of them are statements about property of prime numbers, and they are related each other. At first, Euler proved the Little Fermat Theorem without noticing the relation between the theorem and the Fermat's conjecture. However, when Euler considered Fermat's conjecture, he noticed an amazing fact that the Little Fermat Theorem disproves the Fermat's conjecture.
Growing Up Racist: A white perspective unstuck from divisive ideology

Nobody escapes ideological formation. There is no abstract, neutral, human bystander who perceives from a clear view above world history. We are all born into a society that structures its institutions around its prevailing ideological narrative. In the US there is a hegemonic view regarding what it means to live in the inner-city; perceived by white suburbans as a hotbed of illiteracy and criminal digression, appealing to statistical data in attempt to prove that oppressed communities are responsible for their own exploitation. Examining my service learning experience at Burgard HS through the lens of Louis Althusser, Susan Okin, and Charles Mills, I demonstrate how the default ideological order perpetuates systematic racial hierarchy. For those who still adhere to it, the only biases they perceive are claims made against their own position, and any diversion from the prevailing narrative is thereby discredited. Critical reflection, as liberation, moves discourse from labels to ideas.

Canisius College Math Circle

Math circles are weekly math programs for middle and high school students that take place outside of the school day and are designed to inspire in students an understanding of and a lifelong love for mathematics (Stankova and Rike, 2008). The Math Circle at Canisius College, which began in 2012 under the direction of Dr. Barbara Burns and Dr. Terry Bisson, welcomes students from grades 5-12 who want to explore mathematical curiosities and have fun with mathematics.

This poster presentation will describe the motivation and experience of children and families involved in the Canisius Math Circle. Results from written surveys and discussions with parents and students indicated that participants valued the social support of being around other "math kids." Students and families appreciated the "fun, inquisitive atmosphere" and the ability to escape the slow pace and boredom often experienced in classroom math. Implications for families and educators will also be shared.
### Ignatian Scholarship Day 2016 – Accepted & Endorsed Projects

#### Social Entrepreneurship: Soccer for Success

Our poster presentation will explain our Social Entrepreneurship project to help Soccer for Success by supplying them with volunteers from the Canisius Community. We will explain our plans, challenges, and overall goals for the project as well as the results we have seen to this point.

#### ALANA Student Center Initiatives for 2015-16 (CEEP)

As a CEEP Student, this presentation will give a brief overview of my role and responsibilities at the ALANA Student Center (ASC) which included: researching and assisting in planning of a new ALANA student orientation program for regular student admits of color, assisting in developing tools to evaluate effectiveness of ASC programs, serving as the Assistant Editor for the Cultural Times Bulletin, and a student facilitator of a diversity board game called Keep It Real.

The major part of the presentation will focus on ASCs proposal for a New Student Orientation initiative for regular student admits of color. This to include:

- The assessment that led to creation of this initiative
- The initial proposal for this initiative
- The feedback from college members regarding the proposal
- Modifications made to the proposal
- Implementation of the initiative

Lastly, the presentation will shed some light on ASC’s planned initiatives for the coming academic year.

#### Leonhard Euler

This poster examines the life and mathematical achievements of Leonhard Euler (1707 - 1783), one of the greatest ever mathematicians. The collected works of Euler exceed 75 volumes and, even today, new works of Euler are being discovered. Euler made profound mathematical contributions in both pure and applied mathematics. Modern calculus is based largely on Euler’s refinements of the works of Newton and Leibniz. Even blindness in the later part of his life did blunt the mathematical productivity of Euler - he simply dictated the theories to his secretary.
Synthesis of aryl-guanidino spermidine conjugates as potential trypanothione reductase inhibitors

Serious diseases are caused by protozoan parasites from the Trypanosomatidae family, including: leishmaniasis (Leishmania major, L. donovani, etc.), African trypanosomiasis (Trypanosoma brucei subspecies) and Chagas disease (T. cruzi). The enzyme trypanothione reductase (TR) is pivotal to the unique antioxidant metabolism of these parasites. This enzyme catalyzes the NADPH reduction of the disulfide of trypanothione. Trypanothione is an unusual glutathione-spermidine conjugate (N1,N8-bis(glutathionyl)spermidine) and the reduced (dithiol) form of trypanothione acts as a reducing agent in several vital processes and is also responsible for maintaining the parasites cellular thiol redox balance. Thus inhibitors of TR have potential as novel anti-trypanosomal chemotherapeutics. Here we report the syntheses of several novel aryl-guanidino polyamine derivatives and initial studies of the inhibiting effects of these compounds on recombinant T. cruzi TR.

Investigation of Ag and Au catalysis for cyclopropanation of allenyilsilanes

Metal carbenoid species are productive agents for cycloaddition reactions with alkenes and alkynes, resulting in cyclopropane and cyclopropene compounds in high enantiomeric purity. Our investigations into cyclopropanation of allenes using rhodium carbenoid reagents suggest the allenyl pi-system is inherently less reactive than that of alkenes. We report here results of silver- and gold-catalyzed cyclopropanations of allenes in efforts to characterize reactions with the more reactive carbenoid species. Following literature precedent, both AgOTf and AgSbF6 readily cyclopropanate alkenes in the presence of aryldiazoacetate carbene precursors. With dimethylphenylsilylallene, the silver salts cyclopropanate in moderate yield at room temp. Our preliminary evaluation of gold(I) SbF6 catalyst systems, in the presence of t-BuXPhos ligand, shows a better yield of cyclopropanation product than with the silver salt.

The Development of Bubbling Behavior in Young Beluga Whales (Delphinapterus leucas)

Bubbling is an important form of communication in beluga whales. Bubbling has been documented extensively in adult whales, but how this behavior and communication form develops from birth is less known. Of particular interest is the production of mouth rings, which is indicative of maturing play behavior and learning how to manipulate the air taken in. Observation of beluga calves took place from
birth through the first six months of life. It was found that bubble streams, bubble bursts, and bubble drips from the blowhole were produced from a very early age. It took about five months of development before mouth rings began being produced, and the quality of rings produced becomes better with more time and practice. Thus, it can be implied that beluga calves communicate by bubbling shortly after birth, but that the more complicated shapes require a more lengthy developmental process.

**Student:** Weiss, Gabrielle  
**Time:** 12:30-12:50pm  
**Location:** SH 1004

**Girls Who Don't Speak**  
I’ll be reading from my creative thesis, a chapbook of poems titled "Girls Who Don't Speak." The poems explore protagonist Lucy's relationship with the Grimm's Fairy Tales as she remembers the disappearance of her sister, Violet. The poems tell Lucy's story while also re-imagining classic fairy tales. For example, Sleeping Beauty teaches yoga now, and Snow White calls from her new apartment in a city. In the chapbook, I explore and experiment with different forms of poetry, especially persona, while telling a complete narrative. The poems also explore themes within fairy tales like grief, family, and fantasy.

**Student:** Weiss, Gabrielle  
**Time:** 2:30-2:50pm  
**Location:** SH 1025

**Books Over Boys: Defying Gender Standards in "Ruth Hall"**  
"Books over Boys: Defying Gender Standards in Ruth Hall" explores how Ruth Hall, protagonist in Fanny Fern's 1854 novel Ruth Hall, navigates the strict gender standards of the mid-nineteenth century. In Fern's time, most middle to upper-class, white women followed what historian Barbara Welter termed the Cult of True Womanhood which advocated piety, purity, domesticity, and submissiveness. Ruth vacillates between rejecting and aligning herself with these gendered standards. By the end of the novel, the reader witnesses Ruth gaining independent strength and a voice in a public sphere. Ruth is one of the first heroines balancing motherhood and her career successfully. She changed the landscape for female characters, and showed women how they could successfully navigate the gender standards of the nineteenth century.

**Student:** Woodruff, Mary  
**Time:** 11:00am-12:00pm  
**Location:** Science Hall Commons

**Individual Differences in Selective Attention by Beluga Whales to Mirror Image Video**  
Beluga whales are known to pay selective attention to video images that mirror their own movements. The present study extends the study of this phenomenon by utilizing a live-action-video paradigm. Life-sized moving images were projected onto a screen outside a rectangular viewing window, such that the
whales looked at a live mirror projection of themselves. The amount of time the whales spent at the viewing window was the dependent variable. As expected, the time over which the subjects looked at the projected image was higher for the mirror condition than for a no-image control condition. This time-at-the-window was greater for juvenile whales than for adults, and there were pronounced individual differences that were stable across days. The results are interpreted as compatible with the notion of behavioral syndromes (aka personality types) in beluga whales.

Student: Wrobel, Brianna
Co Authors: Location: Science Hall Commons
Faculty Staff Mentors: Hoffman, Christy
Presentation Type: Poster

**Trends that influence article popularity on the Canisius Canine Research Team's Facebook page**

The Facebook page for the Canisius Canine Research Team is used as a medium to post articles about dog behavior, dog cognition, and the relationships dogs have with conspecifics and humans. One goal of this page is to inform members of the Facebook community about such topics so that dog owners are better informed about dogs and can learn about new ways to ensure the well-being of dogs. The research I will present examines whether factors such as article topic, the day or time a post went live, and the type of source shared (e.g., blog, peer-reviewed article, newspaper article) influence the number of people an article reaches.

Student: Wrobel, Brianna
Co Authors: Location: Science Hall Commons
Faculty Staff Mentors: Sanders, Neva
Presentation Type: Poster

**The Accuracy of Mental Illness Portrayals in Popular Films and its Impact on Layman Perceptions**

The media is often used as an educational medium through which the public receives much information on issues pertaining to psychiatric conditions and mental illness. In one form of media, movies, the portrayal of psychopathology, although dramatic and entertaining, is often grossly inaccurate and can contribute to unrealistic expectations as to what individuals with these disorders "look" and "act like" in everyday life. The goal of this study is to examine the portrayal of Dissociative Identity Disorder in three popular movies and to compare the information presented in each film to the actual diagnostic criteria for the disorder. Issues pertaining to the impact of these incorrect portrayals on societal perceptions of those with mental illness is specifically addressed.

Student: Yanez, Jessica
Co Authors: Location: Science Hall Commons
Faculty Staff Mentors: Courtney Roe, Gina Serman, Margaret Stefanski
Presentation Type: Poster

**Benefits of Language Development and Cultural Awareness Gained from a Study Abroad Experience**

Our project discusses multiple benefits of a study abroad experience for university students. As backed by various studies outlined in our project, the study abroad experience aids in foreign language.
acquisition, cultural awareness, and development of important life skills necessary for success in a diverse and interconnected world. As university students who recently partook in a study abroad program in Mar del Plata, Argentina, we connect our personal experiences with the theory-supported benefits of participating in a study abroad.

Student: Various Students  
Co-Authors:  
Faculty/Staff Mentors: Tunney, Michael  
Presentation Type: 2 or 3 Dimensional Art

FAS 222SL - Figure Drawing
Students will show works drawn in the studio from male and female models. Poses last anywhere from twenty minutes to multiple hours across class sessions. Students will also show self-portraits created at the start of the semester.